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S. W. BAIRD

PRINCIPAL FRANKLIN GRAMMAR SCHOOL, WILKESBARRE, PA.

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NOTE

THE Third Book, beginning with a review of the work in the Second Book, advances to numbers beyond 100 and up to 1,000,000.

Models are given for the various written operations, and oral and written work are combined throughout the book.

Denominate numbers are reviewed and extended, the problems given in connection with this subject being selected with a view to their usefulness.

As many pupils are unable to attend school beyond the grade for which this book is intended, there are here included some of the applications of arithmetic, a knowledge of which will give to the pupil power to solve many problems of everyday occurrence.

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I. WRITTEN WORK

Add:

1.	2.	3.	4.	5.	6.	7.	8.	9.
3	2	7	8	5	9	8	5	2
8	9	2	3	7	8	3	2	7
4	7	4	7	9	7	2	7	4
6	4	3	2	4	5	7	4	5
9	3	2	6	3	6	9	6	9

II. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$40+10=$	$60+40=$	$50-20=$	$40-20=$
2.	$30+20=$	$50+30=$	$70-30=$	$80-30=$
3.	$50+10=$	$20+60=$	$60-40=$	$70-20=$
4.	$20+20=$	$30+40=$	$80-60=$	$90-70=$
5.	$20+30=$	$20+50=$	$90-30=$	$60-30=$

III. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$26+30=$	$37+40=$	$74-20=$	$93-80=$
2.	$54+20=$	$66+30=$	$85-10=$	$95-70=$
3.	$14+40=$	$38+40=$	$54-40=$	$77-40=$
4.	$75+10=$	$56+20=$	$56-30=$	$96-30=$
5.	$62+30=$	$25+70=$	$75-30=$	$78-40=$

I. ORAL WORK

	a.	*b.*	*c.*	*d.*
1.	$12+10=$	$31-10=$	$9+20=$	$28-20=$
2.	$16+10=$	$21-10=$	$21+20=$	$42-20=$
3.	$14+10=$	$19-10=$	$28+20=$	$49-20=$
4.	$9+10=$	$16-10=$	$19+20=$	$38-20=$
5.	$11+10=$	$28-10=$	$32+20=$	$54-20=$

	e.	*f.*	*g.*	*h.*
1.	$9+1=$	$10-1=$	$9+3=$	$12-3=$
2.	$19+1=$	$40-1=$	$19+3=$	$32-3=$
3.	$99+1=$	$100-1=$	$59+3=$	$72-3=$
4.	$69+2=$	$11-2=$	$89+3=$	$82-3=$
5.	$89+2=$	$91-2=$	$79+3=$	$92-3=$

II. ORAL WORK

	a.	*b.*	*c.*	*d.*
1.	$9+4=$	$23-4=$	$9+6=$	$15-6=$
2.	$19+4=$	$73-4=$	$29+6=$	$65-6=$
3.	$9+5=$	$14-5=$	$9+7=$	$16-7=$
4.	$59+5=$	$54-5=$	$19+7=$	$36-7=$
5.	$89+5=$	$74-5=$	$59+7=$	$86-7=$

	e.	*f.*	*g.*	*h.*
1.	$9+8=$	$17-8=$	$9+9=$	$18-9=$
2.	$19+8=$	$37-8=$	$49+9=$	$58-9=$
3.	$59+8=$	$57-8=$	$69+9=$	$38-9=$
4.	$39+8=$	$77-8=$	$29+9=$	$78-9=$
5.	$89+8=$	$97-8=$	$89+9=$	$98-9=$

I. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$19+11=$	$29+12=$	$49+13=$	$29+14=$
2.	$39+11=$	$69+12=$	$19+13=$	$39+14=$
3.	$79+11=$	$39+12=$	$59+13=$	$79+14=$
4.	$89+11=$	$79+12=$	$69+13=$	$19+14=$

	e.	*f.*	*g.*	*h.*
1.	$50-11=$	$61-12=$	$52-13=$	$73-14=$
2.	$70-11=$	$31-12=$	$72-13=$	$53-14=$
3.	$90-11=$	$81-12=$	$42-13=$	$83-14=$
4.	$30-11=$	$41-12=$	$92-13=$	$93-14=$
5.	$60-11=$	$91-12=$	$82-13=$	$43-14=$

II. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$49+15=$	$49+16=$	$39+47=$	$19+78=$
2.	$39+15=$	$29+36=$	$69+27=$	$19+19=$
3.	$19+25=$	$69+26=$	$19+18=$	$29+19=$
4.	$29+35=$	$19+17=$	$39+18=$	$39+49=$
5.	$19+16=$	$29+17=$	$29+58=$	$39+59=$

	e.	*f.*	*g.*	*h.*
1.	$44-15=$	$85-16=$	$76-57=$	$97-78=$
2.	$74-15=$	$75-46=$	$66-37=$	$58-19=$
3.	$84-15=$	$35-26=$	$37-18=$	$68-19=$
4.	$64-35=$	$46-17=$	$67-18=$	$88-49=$
5.	$35-16=$	$56-17=$	$77-48=$	$98-79=$

I. ORAL WORK

	a.	*b.*	*c.*	*d.*
1.	$8+2=$	$10-2=$	$8+3=$	$11-3=$
2.	$18+2=$	$20-2=$	$28+3=$	$41-3=$
3.	$38+2=$	$50-2=$	$78+3=$	$31-3=$
4.	$58+2=$	$100-2=$	$88+3=$	$71-3=$

	e.	*f.*	*g.*	*h.*
1.	$8+4=$	$12-4=$	$8+5=$	$13-5=$
2.	$28+4=$	$62-4=$	$28+5=$	$63-5=$
3.	$88+4=$	$32-4=$	$68+5=$	$23-5=$
4.	$58+4=$	$52-4=$	$78+5=$	$43-5=$

II. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$18+12=$	$30-12=$	$18+13=$	$31-13=$
2.	$38+12=$	$60-12=$	$48+13=$	$61-13=$
3.	$48+42=$	$80-62=$	$78+13=$	$81-43=$
4.	$58+32=$	$90-72=$	$28+63=$	$91-63=$

	e.	*f.*	*g.*	*h.*
1.	$18+14=$	$32-14=$	$18+15=$	$33-15=$
2.	$38+14=$	$52-14=$	$78+15=$	$63-15=$
3.	$48+34=$	$82-34=$	$38+45=$	$73-25=$
4.	$28+64=$	$92-74=$	$28+55=$	$93-55=$

I. ORAL WORK

	a.	*b.*	*c.*	*d.*
1.	$8+6=$	$14-6=$	$8+7=$	$15-7=$
2.	$18+6=$	$24-6=$	$28+7=$	$35-7=$
3.	$48+6=$	$54-6=$	$38+7=$	$55-7=$
4.	$78+6=$	$74-6=$	$58+7=$	$75-7=$

	e.	*f.*	*g.*	*h.*
1.	$8+8=$	$16-8=$	$7+3=$	$10-3=$
2.	$28+8=$	$46-8=$	$27+3=$	$40-3=$
3.	$48+8=$	$76-8=$	$57+3=$	$60-3=$
4.	$78+8=$	$56-8=$	$77+3=$	$100-3=$

II. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$18+16=$	$34-16=$	$18+17=$	$35-17=$
2.	$38+16=$	$64-16=$	$38+17=$	$45-17=$
3.	$58+36=$	$84-16=$	$28+47=$	$65-37=$
4.	$28+56=$	$94-56=$	$58+37=$	$85-47=$

	e.	*f.*	*g.*	*h.*
1.	$18+18=$	$36-18=$	$17+13=$	$30-13=$
2.	$58+18=$	$76-18=$	$47+13=$	$40-13=$
3.	$38+48=$	$86-48=$	$27+53=$	$80-23=$
4.	$28+67=$	$96-78=$	$47+33=$	$90-73=$

I. ORAL WORK

	a.	*b.*	*c.*	*d.*
1.	$7+4=$	$11-4=$	$7+5=$	$12-5=$
2.	$27+4=$	$41-4=$	$37+5=$	$52-5=$
3.	$67+4=$	$61-4=$	$57+5=$	$72-5=$
4.	$37+4=$	$91-4=$	$77+5=$	$92-5=$

	e.	*f.*	*g.*	*h.*
1.	$7+6=$	$13-6=$	$7+7=$	$14-7=$
2.	$47+6=$	$43-6=$	$27+7=$	$44-7=$
3.	$77+6=$	$63-6=$	$47+7=$	$64-7=$
4.	$87+6=$	$93-6=$	$67+7=$	$74-7=$

II. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$17+14=$	$41-14=$	$17+15=$	$32-15=$
2.	$47+14=$	$61-14=$	$27+15=$	$72-15=$
3.	$37+44=$	$81-34=$	$47+35=$	$82-35=$
4.	$57+34=$	$91-34=$	$37+55=$	$92-45=$

	e.	*f.*	*g.*	*h.*
1.	$17+16=$	$33-16=$	$16+14=$	$30-14=$
2.	$37+16=$	$73-16=$	$36+14=$	$50-34=$
3.	$27+46=$	$53-36=$	$26+44=$	$70-44=$
4.	$57+36=$	$83-46=$	$46+34=$	$100-74=$

I. ORAL WORK

	a.	*b.*	*c.*	*d.*
1.	$6+4=$	$10-4=$	$6+5=$	$11-5=$
2.	$26+4=$	$30-4=$	$36+5=$	$51-5=$
3.	$76+4=$	$70-4=$	$66+5=$	$71-5=$
4.	$96+4=$	$100-4=$	$86+5=$	$91-5=$

	e.	*f.*	*g.*	*h.*
1.	$6+6=$	$12-6=$	$5+5=$	$10-5=$
2.	$26+6=$	$42-6=$	$35+5=$	$50-5=$
3.	$56+6=$	$62-6=$	$65+5=$	$80-5=$
4.	$86+6=$	$92-6=$	$95+5=$	$100-5=$

II. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$16+15=$	$31-15=$	$16+16=$	$32-16=$
2.	$36+15=$	$51-15=$	$36+16=$	$52-16=$
3.	$46+35=$	$81-35=$	$26+56=$	$82-46=$
4.	$26+65=$	$91-75=$	$46+36=$	$92-56=$

	e.	*f.*	*g.*	*h.*
1.	$15+15=$	$30-15=$	$80-26=$	$30-17=$
2.	$25+15=$	$50-15=$	$40-36=$	$50-37=$
3.	$85+15=$	$70-25=$	$70-56=$	$60-47=$
4.	$35+65=$	$100-45=$	$100-76=$	$90-77=$

I. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$2 \times 6 =$	$4 \times 11 =$	$4 \times 10 =$	$11 \times 8 =$
2.	$2 \times 12 =$	$4 \times 5 =$	$4 \times 9 =$	$12 \times 6 =$
3.	$3 \times 6 =$	$3 \times 11 =$	$4 \times 8 =$	$6 \times 11 =$
4.	$3 \times 12 =$	$3 \times 5 =$	$7 \times 7 =$	$12 \times 7 =$
5.	$4 \times 6 =$	$2 \times 11 =$	$6 \times 7 =$	$11 \times 4 =$
6.	$4 \times 12 =$	$2 \times 5 =$	$9 \times 8 =$	$8 \times 7 =$

II. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	$36 \div 3 =$	$18 \div 3 =$	$12 \div 2 =$	$44 \div 11 =$
2.	$15 \div 3 =$	$32 \div 4 =$	$44 \div 4 =$	$54 \div 9 =$
3.	$49 \div 7 =$	$66 \div 6 =$	$40 \div 4 =$	$81 \div 9 =$
4.	$48 \div 8 =$	$33 \div 3 =$	$63 \div 7 =$	$56 \div 7 =$
5.	$88 \div 8 =$	$60 \div 5 =$	$21 \div 3 =$	$60 \div 12 =$
6.	$84 \div 7 =$	$64 \div 8 =$	$72 \div 8 =$	$84 \div 12 =$

III. ORAL WORK

Divide 28 by 7.

MODEL. — 28 divided by 7 equals 4.

Divide:

1. 24 by 3; by 8; by 12; by 2; by 4; by 6; by 24.
2. 36 by 4; by 9; by 6; by 3; by 12; by 36.
3. 40 by 4; by 5; by 8; by 10; by 20; by 40.
4. 48 by 4; by 6; by 8; by 2; by 12; by 48.

I. WRITTEN WORK

1. Add 24 to: 36; 27; 37; 46; 57; 26; 16; 67; 56; 47.

2. Add 28 to the above numbers. Add 29.

3. Subtract 24 from: 32; 62; 42; 61; 71; 81; 53; 73; 83; 93.

4. Subtract 28 from the above numbers. Subtract 29.

5. Write all the numbers that can be exactly divided by 7, from 7 to 98.

6. Write all the numbers that can be exactly divided by 9, from 9 to 99.

II. ORAL WORK

1. Add by 5's from 5 to 100; from 1 to 96.
2. Add by 6's from 6 to 96; from 1 to 97.
3. Add by 7's from 7 to 98; from 1 to 99.
4. Add by 8's from 8 to 96; from 1 to 97.
5. Subtract by 5's from 100 to 0; from 96 to 1.
6. Subtract by 6's from 96 to 0; from 97 to 1.
7. Subtract by 7's from 98 to 0; from 99 to 1.
8. Subtract by 8's from 96 to 0; from 97 to 1.

I. WRITTEN WORK

Divide 57 by 9.

MODEL. — 57 ÷ 9 = 6, and 3 remainder.

1. 76 ÷ 8 = —, and — remainder.
2. 84 ÷ 9 = —, and — remainder.
3. 73 ÷ 7 = —, and — remainder.
4. 67 ÷ 10 = —, and — remainder.

II. WRITTEN WORK

	a.	*b.*	*c.*
1.	8 + 8 + 8 + 8 =	4 × 8 =	21 + 21 =
2.	9 + 9 + 9 + 9 =	4 × 9 =	22 + 22 =
3.	10 + 10 + 10 + 10 =	4 × 10 =	23 + 23 =
4.	11 + 11 + 11 + 11 =	4 × 11 =	24 + 24 =
5.	12 + 12 + 12 + 12 =	4 × 12 =	25 + 25 =

	d.	*e.*	*f.*	*g.*
1.	2 × 21 =	2 × 25 =	32 ÷ 4 =	40 ÷ 10 =
2.	2 × 22 =	2 × 27 =	32 ÷ 8 =	44 ÷ 11 =
3.	2 × 23 =	2 × 28 =	36 ÷ 4 =	48 ÷ 12 =
4.	2 × 24 =	2 × 29 =	36 ÷ 9 =	48 ÷ 4 =

	h.	*i.*	*j.*	*k.*
1.	44 ÷ 2 =	50 ÷ 2 =	58 ÷ 2 =	$\frac{1}{4}$ of 36 =
2.	44 ÷ 22 =	42 ÷ 2 =	56 ÷ 28 =	$\frac{1}{11}$ of 44 =
3.	46 ÷ 2 =	52 ÷ 2 =	54 ÷ 2 =	$\frac{1}{12}$ of 48 =
4.	46 ÷ 23 =	56 ÷ 2 =	60 ÷ 30 =	$\frac{1}{2}$ of 44 =

I. ORAL WORK

$7 \times 9, -6 = ?$

MODEL.—7 times 9 = 63; 63 minus 6 = 57.

	a.	*b.*	*c.*
1.	$8 \times 7, -5 =$	$7 \times 10, -9 =$	$9 \times 9, -10 =$
2.	$6 \times 8, -9 =$	$10 \times 6, -3 =$	$11 \times 7, -9 =$
3.	$5 \times 9, -7 =$	$9 \times 7, -8 =$	$12 \times 7, -8 =$
4.	$9 \times 4, -8 =$	$11 \times 5, -7 =$	$28 \times 3, -6 =$
5.	$7 \times 6, -3 =$	$8 \times 9, -10 =$	$12 \times 6, -7 =$

II. ORAL WORK

$\frac{1}{8}$ of $32, +9 = ?$

MODEL.—$\frac{1}{8}$ of 32 = 4; 4 plus 9 = 13.

	a.	*b.*	*c.*
1.	$\frac{1}{3}$ of $24, +7 =$	$\frac{1}{8}$ of $72, +14 =$	$\frac{1}{7}$ of $49, +17 =$
2.	$\frac{1}{5}$ of $35, +12 =$	$\frac{1}{8}$ of $40, +30 =$	$\frac{1}{7}$ of $63, +29 =$
3.	$\frac{1}{3}$ of $36, +10 =$	$\frac{1}{8}$ of $96, +20 =$	$\frac{1}{7}$ of $56, +58 =$
4.	$\frac{1}{9}$ of $72, +13 =$	$\frac{1}{8}$ of $56, +27 =$	$\frac{1}{7}$ of $77, +80 =$
5.	$\frac{1}{4}$ of $48, +9 =$	$\frac{1}{8}$ of $64, +38 =$	$\frac{1}{7}$ of $84, +70 =$

III. ORAL WORK

$48 \div 12, -3 = ?$

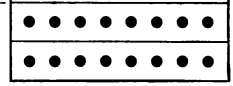
MODEL.—48 divided by 12 = 4; 4 minus 3 = 1.

	a.	*b.*	*c.*
1.	$28 \div 4, -5 =$	$81 \div 9, -7 =$	$64 \div 8, -5 =$
2.	$84 \div 7, -9 =$	$63 \div 7, -5 =$	$99 \div 9, -5 =$
3.	$72 \div 6, -4 =$	$88 \div 8, -8 =$	$90 \div 9, -7 =$
4.	$96 \div 8, -9 =$	$77 \div 7, -4 =$	$100 \div 10, -10 =$

I. WRITTEN WORK

1. Find $\frac{2}{3}$ of 24.

$\frac{1}{3}$ of 24 =  8.

$\frac{2}{3}$ of 24 =  16.

2. Find $\frac{3}{4}$ of 44.

MODEL. — $\frac{1}{4}$ of 44 = 11; $\frac{3}{4}$ of 44 = 3 × 11, or 33.

3. Find $\frac{3}{5}$ of 25; 30; 35; 40; 45; 60; 100.

4. Find $\frac{5}{6}$ of 30; 42; 48; 36; 54; 60; 66.

5. Find $\frac{3}{4}$ of 16; 28; 32; 24; 60; 56; 64.

6. Find $\frac{3}{6}$ of 24 apples; $\frac{1}{2}$ of 24 apples.

7. Find $\frac{5}{10}$ of 60 sheep; $\frac{1}{2}$ of 60 sheep.

8. Find $\frac{1}{3}$ of 36 hens; $\frac{3}{9}$ of 36 hens.

9. Show by dots that $\frac{3}{6}$ of 42 oranges and $\frac{1}{2}$ of 42 oranges are equal.

10. Show by dots that $\frac{5}{10}$ of 20 pears and $\frac{1}{2}$ of 20 pears are equal.

II. ORAL WORK

Find:

	a.	*b.*	*c.*	*d.*
1.	$\frac{3}{8}$ of 24	$\frac{5}{6}$ of 42	$\frac{5}{6}$ of 72	$\frac{7}{9}$ of 81
2.	$\frac{3}{6}$ of 24	$\frac{7}{8}$ of 40	$\frac{5}{8}$ of 56	$\frac{6}{7}$ of 56
3.	$\frac{2}{7}$ of 28	$\frac{5}{9}$ of 45	$\frac{4}{5}$ of 45	$\frac{5}{6}$ of 99
4.	$\frac{5}{7}$ of 35	$\frac{7}{12}$ of 84	$\frac{4}{9}$ of 54	$\frac{7}{8}$ of 64

WRITTEN WORK

1. A man bought 91 chickens and sold 56 of them. How many had he left?

2. If $63 will buy 9 boxes of soap, how many boxes of soap will $7 buy?

3. If $\frac{1}{2}$ a pound of tea costs 44¢, how much will 1 pound cost?

4. If a pound of tea costs 66¢, how much will $\frac{1}{3}$ of a pound cost? $\frac{2}{3}$ of a pound?

5. How many pounds of sugar at 6¢ a pound can I get for 3 pounds of butter at 22¢ a pound?

6. How many weeks are there in 84 days? in 91 days?

7. If 72 trees are planted in rows with 9 trees in each row, how many rows will there be?

8. I buy 3 pints of milk each day, at 8¢ a quart. How much is my milk bill each week?

9. A man earns $100 each month, and pays $20 a month for rent, and $30 for living expenses. How much can he save each month?

10. A merchant bought 36 yards of silk, and sold $\frac{1}{3}$ of it at $3 a yard. How much did he receive for what he sold?

ORAL WORK

1. There are 16 oz. in 1 lb. How many ounces equal $\frac{1}{4}$ of a pound? $\frac{3}{4}$ of a pound?

2. 1 oz. is what part of a pound? 4 oz.? 12 oz.?

3. When a drug is selling at 32¢ a pound, how much must be paid for 8 oz.?

4. How much must I pay for $1\frac{1}{2}$ lb. of butter at 32¢ a pound?

5. How much will 1 lb. and 12 oz. of cheese cost at 16¢ a pound? How much will 2 lb. cost?

6. At 12¢ a pound, find the cost of $1\frac{3}{4}$ lb. of starch. Find the cost of $4\frac{1}{2}$ lb.

7. Find the cost of 20 oz. of lard at 12¢ a pound.

8. Divide \$54 by 6; 63¢ by 7; 56 apples by 8; \$28 by 14.

9. Multiply \$11 by 3; \$13 by 3; \$24 by 2; 9¢ by 7; 12 eggs by 6; 22 beans by 2; 14 hens by 2.

10. How many bottles of ink at 9¢ a bottle can I get for 90¢? at 10¢ a bottle?

11. If 2 lb. of coffee cost 60¢, how much will 1 lb. cost? How much will $1\frac{1}{2}$ lb. cost?

12. If a man can build 30 rods of fence in 5 days, how many rods can he build in 10 days?

WRITTEN WORK

1. A man agreed to pick 100 qt. of berries for me. He picked at one time 32 qt., and at another time 40 qt. How many quarts has he still to pick?

2. A teacher gets $100 a month, and can save only $27 each month. How much does he spend each month?

3. How much will 2 gal. of milk cost at 8¢ a quart?

4. Find the cost of 3 lb. and 8 oz. of butter at 24¢ a pound.

$3 \times 24¢ = —¢$, = cost of 3 lb.
$\frac{1}{2}$ of $24¢ = —¢$, = cost of 8 oz.
$—¢$, = cost of 3 lb. 8 oz.

5. Find the cost of 12 tons of coal at 6\frac{1}{2}$ a ton.

6. A farmer raised 21 bu. of potatoes one year, and 3 times as many bushels the next year. How many bushels did he raise both years? How many more bushels did he raise the second year than the first year?

7. When onions are selling at 40¢ a bushel, how much must I pay for $2\frac{1}{2}$ bushels?

8. How many yards of calico at 7¢ a yard can be bought with 5 dozen eggs at 14¢ a dozen?

ORAL WORK

1. If 3 melons cost 60 cents, what is the cost of 1 melon? What is the cost of 5?

2. If 3 oranges are worth 9 apples, how many apples is 1 orange worth? How many apples are 12 oranges worth? How many oranges are 60 apples worth?

3. How many pints of peanuts will it take to give to each of 24 boys $\frac{1}{2}$ a pint?

4. Mary paid 6 cents for $\frac{1}{2}$ a yard of lace; at the same rate, how many yards can she get for 96 cents?

5. If a boy can pick 12 quarts of cherries in $\frac{1}{2}$ a day, how many quarts can he pick in 1 day?

6. If 7 yards of cloth cost \$42, what is the cost of 1 yard? What is the cost of $\frac{2}{3}$ of a yard?

7. How much will $3\frac{1}{2}$ pounds of beef cost at 14 cents a pound?

8. How many pounds of pork chops can be bought for 48 cents, if 1 pound costs 16 cents?

9. If 8 quarts of chestnuts cost 64¢, how much will 12 quarts cost? I paid 30¢ for 1 quart 1 pint of cream. How much is that a gallon?

WRITTEN WORK

1. A drover bought 100 sheep, and sold 26 of them to one man and 54 to another man. How many had he left?

2. How long will it take a boy to ride 100 miles on his bicycle, if he rides 20 miles each day?

3. A dealer bought 100 barrels of apples and sold all but 32 barrels. How many barrels did he sell?

4. How many yards of cloth are there in 3 pieces of 32 yards each?

5. How many pecks of beans can be put into a box that will hold just 21 bushels?

6. How many quarts are there in 3 bushels?

7. There are 25 grapes in one bunch, 19 in another, and 41 in another. How many grapes are there in the three bunches?

8. Martha bought some muslin for 24 cents, some calico for 27 cents, and some ribbon for 35 cents. She gave the clerk a dollar bill. How much change should she receive?

9. How much will a peck of beans cost at 4¢ a pint?

10. How much is $\frac{1}{2}$ a bushel of peas worth at 5¢ a quart?

ORAL WORK

1. One inch is what part of a foot? 6 in.? 7 in.? 8 in.? 10 in.?

2. One foot is what part of a yard? 2 ft.? $1\frac{1}{2}$ ft.?

3. How many inches are there in a yard? in $\frac{1}{2}$ a yard? in $1\frac{1}{2}$ yd.?

4. How many feet are there in 72 in.? how many yards?

5. How many yards are there in 37 ft.? How many feet are left?

6. 3 yd. are what part of 36 yd.?

7. If 36 yd. of tape cost 72¢, how much will 3 yd. cost?

8. How many yards of lace at 12¢ a yard may be bought for 3 lb. of butter at 24¢ a pound?

9. Mary bought a piece of calico containing 45 yd. She used $\frac{3}{5}$ of it to make 3 dresses. How many yards were used for each dress?

10. A lady cut 25 roses one morning and 36 the next morning. How many did she cut both mornings?

11. If she makes them into bouquets of 10 roses each, how many bouquets will she have, and how many roses will she have left?

WRITTEN WORK

1. A schoolroom is 33 ft. long and 24 ft. wide. How many yards long and yards wide is it? How many yards is it around the room? How many rods long is the room?

2. If I pay 5 cents for 10 plums, how much must I pay for $2\frac{1}{2}$ dozen? for 5 dozen?

3. 24 sheets of paper make a quire. Find how many sheets there are in $1\frac{1}{2}$ quires; in $2\frac{1}{2}$ quires.

4. How much will $1\frac{1}{2}$ quires of paper cost at $1\frac{1}{2}¢$ a sheet?

5. How many rods and feet are there in 36 ft.?

6. How many rods are there in 66 ft.?

7. How many hours are there from half-past seven o'clock Thursday morning until half-past seven o'clock Friday evening?

8. Find the cost of 45 eggs at 24¢ a dozen.

9. If a bushel of potatoes weighs 60 lb., what is the weight of 3 pk.?

10. How much must I pay for 3 pk. of potatoes, when they are selling for 80¢ a bushel?

11. If a man can pick 40 bushels of apples in 8 hours, how long will it take him to pick 30 bushels?

ORAL WORK

1. If a man earns $\$12\frac{1}{2}$ a week, and pays $\$5\frac{1}{2}$ for board, how much can he save in $2\frac{1}{2}$ mo., allowing 4 wk. to make a month?

2. If I fill 2 ten-gallon kegs from a barrel containing $31\frac{1}{2}$ gallons of cider, how many gallons will be left in the barrel?

3. What *four equal* pieces of money make $\$2$?

4. What *six equal* pieces of money make $\$1\frac{1}{2}$?

5. How many quarts of water will fill 4 jugs, if each jug holds $2\frac{1}{2}$ gal.?

6. If it takes $3\frac{1}{2}$ yards of cloth to make one pair of trousers, how many yards will be needed to make 6 pairs?

7. How many eggs at 36¢ a dozen will pay for 6 yd. of ribbon at 11¢ a yard?

8. What is the cost of $\frac{5}{6}$ of a dozen toothbrushes at 10¢ each?

9. What is the cost of $\frac{4}{7}$ of 42 bananas at 25¢ a dozen?

10. How much can a boy earn in 3 hours and 20 minutes at 12¢ an hour?

11. At the rate of 3 spools for 20¢, how many spools of silk can you buy for 80¢?

WRITTEN WORK

1. How many feet is it around a room 21 ft. 8 in. long, and 14 ft. 4 in. wide? how many yards?

2. A milkman sold $22\frac{1}{2}$ gal. of milk on Monday, 21 gal. on Tuesday, 41 gal. on Wednesday, and $15\frac{1}{2}$ gal. on Thursday. How many gallons did he sell in all?

3. From a pail containing 40 lb. of lard, a grocer sold 12 lb. 7 oz. to one man, and 16 lb. 9 oz. to another man. How many pounds were left?

4. If $24 will buy 8 yd. of cloth, how many yards will $48 buy?

5. At $\$\frac{1}{2}$ a peck, how much will $\frac{1}{2}$ a bushel of apples cost?

6. How much are 13 bbl. of flour worth at $4 a barrel?

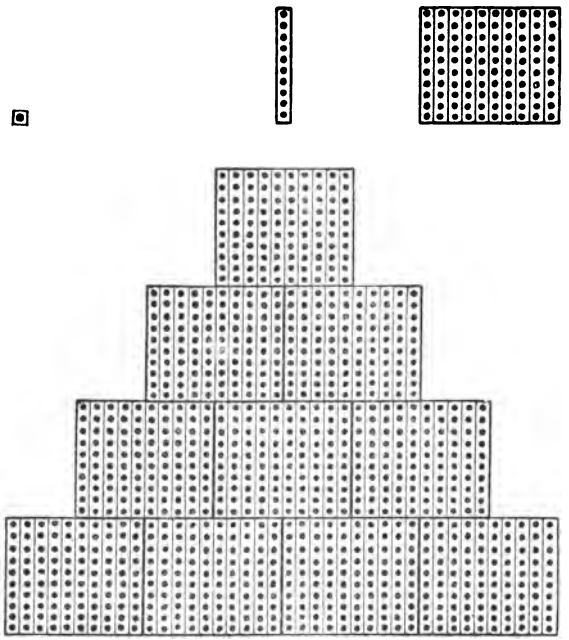
7. How many yards of cloth at $4 a yard can be bought for $52?

8. 6 is what part of 12? How many 6's are there in 12?

9. If 6 lb. of sugar cost 30¢, how much will 12 lb. cost? How much will 18 lb. cost?

10. If 7 lb. of rice cost 42¢, how much will 13 lb. cost?

ORAL WORK



One = ... 1.
Ten 1's = ... 10, one ten.
Ten 10's = . . . 100, one hundred.
Ten 100's = . . . 1000, one thousand.
Ten 1000's = . . 10,000, one ten-thousand.
Ten 10000's = . . 100,000, one hundred-thousand.
Ten 100000's = . 1,000,000, one million.

I. WRITTEN WORK

	a.	*b.*	*c.*
1.	$100 + 100 = 200$	$200 + 200 =$	$400 \div 2 =$
2.	$200 + 100 =$	$300 + 300 =$	$600 \div 2 =$
3.	$300 + 100 =$	$400 + 400 =$	$800 \div 2 =$
4.	$400 + 100 =$	$500 + 500 =$	$1000 \div 2 =$
5.	$500 + 100 =$	$2 \times 100 =$	$\frac{1}{2}$ of $200 =$
6.	$600 + 100 =$	$2 \times 200 =$	$\frac{1}{2}$ of $400 =$
7.	$700 + 100 =$	$2 \times 300 =$	$\frac{1}{2}$ of $600 =$
8.	$800 + 100 =$	$2 \times 400 =$	$\frac{1}{2}$ of $800 =$
9.	$900 + 100 =$	$2 \times 500 =$	$\frac{1}{2}$ of $1000 =$

II. ORAL WORK

1. How many 1's make 10? How many 10's make 100?

2. How many 10's make 200? 300? 400? 500? 600? 700? 800? 900? 1000?

3. 2 times ten 10's equal how many 10's?

4. Twenty 10's equal how many *ones?*

5. 5 times ten 10's equal how many 10's?

6. Fifty 10's equal how many *ones?*

7. One hundred 10's equal how many *ones?*

I. ORAL WORK

1. When a figure stands alone it denotes **Units.** The word *unit* means *one.* Thus, 2 denotes two units, or 2 *ones;* 3 denotes three units, or 3 *ones.*

2. A figure placed at the left of units denotes **Tens.** Thus, in 35 the 3 denotes tens, and the 5 denotes units. Hence 35 = 3 tens and 5 units.

3. A figure placed at the left of tens denotes **Hundreds.** Thus, in 235 the 2 denotes hundreds, the 3, tens, and the 5, units. Hence 235 = 2 hundreds, 3 tens, and 5 units.

II. ORAL WORK

1. How many tens and units are there in 47?

MODEL. — In 47 there are 4 tens and 7 units.

2. How many tens and units are there in 54? in 63? 79? 87? 99?

3. How many hundreds, tens, and units are there in 327?

MODEL. — In 327 there are 3 hundreds, 2 tens, and 7 units.

4. How many hundreds, tens, and units are there in 436? in 572? 728? 999? 709? 900? 1000?

5. 327 is read *three hundred twenty-seven.*

6. Read: 726; 740; 706; 504; 808; 999.

I. WRITTEN WORK

Write in words: 325.

MODEL. — 325 = three hundred twenty-five.

	a.	*b.*	*c.*	*d.*
1.	406	329	505	306
2.	700	786	560	989

Express in figures:

	e.	*f.*
1.	Three hundred = 300.	Six hundred nine.
2.	Nine hundred.	Seven hundred thirty-four.
3.	Four hundred thirty.	Three hundred forty-seven.
4.	Seven hundred fifty.	Nine hundred eighty-nine.

II. WRITTEN WORK

Express in figures:

1. Four hundreds, 5 tens, and 3 units.
2. Seven hundreds, 8 tens, and 7 units.
3. Five hundreds, 5 tens, and 5 units.
4. Six hundreds, 7 tens, and 6 units.
5. Eight hundreds, 0 tens, and 4 units.
6. Nine hundreds, 0 tens, and 8 units.
7. Three hundreds, 0 tens, and 7 units.
8. Five hundreds and three tens.
9. Four hundreds and seven tens.
10. Nine hundreds, 8 tens, and 4 units.

ORAL WORK

1. How many units make one 10? How many 10's make 100?

2. In 33, how many units does the figure at the right express? How many units does the second figure express? The second 3 expresses how many times as many units as the first 3?

3. 30 units are how many times 3 units? How many 10's are 30 units? 40 units?

4. In 333, what does the first figure at the left express? It expresses how many times as many *tens* as the second 3? How many 10's are 300? How many units are 30 tens?

5. 35 units equal how many tens and units?

6. 325 units equal how many hundreds, tens, and units?

7. 7 tens and 8 units equal how many units?

8. 8 hundreds, 7 tens, and 4 units equal how many units?

9. How many 10's are 500 units? 800 units? 1000 units?

10. 8 hundreds, 9 tens, and 10 units equal how many tens?

11. 3 times nine 10's equal how many units?

I. ORAL WORK

When a number is expressed by four figures, the fourth figure from the right denotes **Thousands.** Thus, in 3726 the 3 denotes thousands.

Read the following numbers:

	a.	*b.*	*c.*	*d.*
1.	1000	7600	9654	8009
2.	2000	5460	6072	7206
3.	9000	3840	8056	8607
4.	7200	6721	9005	8049

II. WRITTEN WORK

Write in words:

	a.	*b.*	*c.*	*d.*
1.	8000	8320	3281	6007
2.	5600	6540	5036	3009
3.	7200	7963	3072	4605

Express in figures:

Three thousand; two thousand four hundred; seven thousand three hundred twenty; four thousand two hundred eighty-one; five thousand three hundred sixty-three; eight thousand sixty-nine; nine thousand thirty-four; seven thousand seven.

I. ORAL WORK

1. When a number is expressed by five figures, the left-hand figure denotes tens of thousands, or **Ten-thousands.** Thus, in 34,567 the 3 denotes ten-thousands.

2. How many ten-thousands are there in 10,000? in 20,000? in 40,000?

3. How many ten-thousands and thousands are there in 14,000? in 26,000? 84,000? 96,000? 98,000? 99,000?

Read the following numbers:

	a.	*b.*	*c.*	*d.*
1.	46,400	84,700	38,640	72,064
2.	72,300	59,320	27,321	89,003

II. WRITTEN WORK

Write in words:

	a.	*b.*	*c.*	*d.*
1.	70,000	46,340	72,042	80,329
2.	32,000	79,671	89,006	80,046

Express in figures:

Thirty thousand; forty-one thousand; sixty-three thousand seven hundred; twenty-five thousand five hundred forty; seventy-two thousand eight hundred thirty-five; eighty-three thousand forty-six.

I. ORAL WORK

1. When a number is expressed by six figures, the left-hand figure denotes hundreds of thousands, or more briefly, **Hundred-thousands.**

Thus, in 456,000 the 4 denotes hundred-thousands.

2. How many hundred-thousands are there in 200,000? in 400,000? 800,000? 900,000?

3. How many hundred-thousands, ten-thousands, and thousands are there in the following numbers: 346,000? 864,000? 743,000?

Read the following numbers:

	a.	*b.*	*c.*	*d.*
1.	700,000	543,200	368,401	872,004
2.	740,000	343,650	968,372	706,043
3.	846,000	903,740	800,364	900,004

II. WRITTEN WORK

Write in words:

	a.	*b.*	*c.*	*d.*
1.	400,000	930,400	700,346	306,004
2.	360,000	562,710	403,605	764,206
3.	844,000	802,631	200,025	800,007

I. WRITTEN WORK

Express in figures:

Four hundred thousand; five hundred thirty thousand; three hundred twenty-one thousand; six hundred twenty-four thousand four hundred; seven hundred eighty-three thousand six hundred twenty-seven; eight hundred nine thousand five hundred sixty-two; nine hundred thousand seventy-two; two hundred thousand one hundred.

II. ORAL WORK

1. When a number is expressed by seven figures, the left-hand figure denotes **Millions.**

Thus, in 1,000,000 the 1 denotes *one million.*

2. What place, counting from units, do tens occupy? hundreds? thousands? ten-thousands? hundred-thousands? millions?

3. How many thousands and hundreds are there in 32 hundreds? in 46 hundreds?

4. How many thousands, hundreds, tens, and units are there in 3726? in 8064? 8603? 5450?

Read the following numbers:

	a.	*b.*	*c.*
1.	3,420,673	5,067,203	8,600,041
2.	7,603,741	9,006,520	7,000,406

I. WRITTEN WORK

Write in figures:

Thirty thousand four hundred sixty-five; forty-nine thousand sixty-eight; three hundred thirty-five thousand seventy-seven; two hundred eight thousand nine hundred six; one million three hundred twenty-five thousand four hundred sixty-nine; one million thirty-four thousand fifty-seven; one million eighty-three thousand seven hundred seven.

II. ORAL WORK

1. What number is one more than 99? 100? 500?

2. What number is one less than 100? 200? 500?

3. Name the smallest whole number that can be written with three figures; four figures.

4. Name the largest whole number that can be expressed by two figures; three figures.

5. How many must be added to 99 to make 101?

6. How many must be added to 999 to make 1000?

7. When a number is expressed by four figures, what does the left-hand figure denote?

8. What number is one more than 13,999? 459,999? 999,999?

9. What number is one less than 500,000?

WRITTEN WORK

1. Write all the numbers from 100 to 200.

2. Write all the numbers from 900 to 1000.

3. Write all the numbers from 1000 to 1100.

4. Write in columns of ten numbers each, placing units under units, tens under tens, etc.:

Four hundred twenty-nine; seven hundred four; two thousand three hundred thirty-eight; five thousand three hundred; seven thousand seven hundred forty; sixty thousand forty-two; twenty thousand three hundred; forty-eight thousand five hundred one; seven thousand five; forty-two thousand three hundred four; two hundred twenty thousand two hundred twenty; seven thousand seven; fifty thousand fifty; eighty thousand eight hundred eight; twenty-nine thousand twenty-nine; one million three hundred thousand three hundred; forty-seven thousand forty-seven; two thousand two; seventy-seven thousand seventy-seven; one million three hundred twenty-six thousand two hundred one; six thousand twenty; one million nine; twenty thousand four; eighty thousand ninety-six; one million nineteen thousand; eighteen hundred thousand eighteen; one million thirty-nine; four hundred thousand; nine hundred seven; eighty thousand forty-six; six thousand ninety-four.

I. WRITTEN WORK

	a.	*b.*	*c.*
1.	$400+200=$	$800-300=$	$900-300+200=$
2.	$300+200=$	$700-500=$	$800-200+400=$
3.	$500+200=$	$400-200=$	$400+300+200=$
4.	$600+300=$	$500-300=$	$500-400+800=$
5.	$300+400=$	$700-300=$	$300+700-500=$
6.	$500+300=$	$800-500=$	$800-500+600=$
7.	$700+200=$	$900-300=$	$200+700-800=$
8.	$800+200=$	$1000-400=$	$700+300-900=$
9.	$300+700=$	$1000-600=$	$1000-600+300=$

II. WRITTEN WORK

	a.	*b.*	*c.*
1.	$600+600=$	$2\times600=$	$1400\div2=$
2.	$700+700=$	$2\times700=$	$1600\div2=$
3.	$800+800=$	$2\times800=$	$1200\div2=$
4.	$900+900=$	$2\times900=$	$1800\div2=$
5.	$1000+1000=$	$2\times1000=$	$2000\div2=$

	d.	*e.*
1.	$3000+4000=$	$12{,}000-9000=$
2.	$7000+2000=$	$20{,}000-10{,}000=$
3.	$8000+6000=$	$60{,}000-40{,}000=$
4.	$10{,}000+8000=$	$40{,}000-20{,}000=$
5.	$20{,}000+9000=$	$70{,}000-50{,}000=$
6.	$50{,}000+20{,}000=$	$80{,}000-60{,}000=$
7.	$80{,}000+40{,}000=$	$120{,}000-80{,}000=$
8.	$90{,}000+50{,}000=$	$140{,}000-100{,}000=$

ORAL WORK

1. Numbers may be expressed by **Words**, as *one*, *two*, *three*, *four*, etc.

2. Numbers are generally expressed by the **Figures** 1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

3. Numbers are sometimes expressed by means of seven capital **Letters.**

4. The letters used are: I, V, X, L, C, D, M. Their values are: 1, 5, 10, 50, 100, 500, 1000.

5. Other numbers are expressed by repeating or combining these letters.

	a.	*b.*	*c.*
1.	I = 1	XV = 15	XL = 40
2.	II = 2	XVI = 16	L = 50
3.	III = 3	XVII = 17	LX = 60
4.	IV = 4	XVIII = 18	LXX = 70
5.	V = 5	XIX = 19	LXXX = 80
6.	VI = 6	XX = 20	XC = 90
7.	VII = 7	XXIV = 24	C = 100
8.	VIII = 8	XXV = 25	CXX = 120
9.	IX = 9	XXVII = 27	CC = 200
10.	X = 10	XXIX = 29	CD = 400
11.	XI = 11	XXX = 30	D = 500
12.	XII = 12	XXXI = 31	DCC = 700
13.	XIII = 13	XXXV = 35	M = 1000
14.	XIV = 14	XXXVII = 37	MM = 2000

I. WRITTEN WORK

	a.	*b.*	*c.*	*d.*	*e.*
1.	10 = X	40 =	89 =	100 =	142 =
2.	14 = XIV	48 =	90 =	111 =	158 =
3.	24 =	50 =	94 =	114 =	181 =
4.	28 =	57 =	96 =	119 =	175 =
5.	34 =	80 =	98 =	127 =	199 =

	f.	*g.*	*h.*	*i.*	*j.*
1.	200 =	299 =	600 =	800 =	1000 =
2.	214 =	400 =	629 =	849 =	1246 =
3.	260 =	486 =	687 =	900 =	1563 =
4.	287 =	500 =	700 =	964 =	1729 =
5.	295 =	572 =	552 =	999 =	1895 =

II. ORAL WORK

Read and express by figures the numbers represented by capital letters:

1. Columbus discovered Cuba in MCCCCXCII.

2. The Declaration of Independence was adopted in MDCCLXXVI.

3. The National Constitution was adopted in MDCCLXXXVII.

4. Washington was inaugurated first President of the United States in MDCCLXXXIX.

I. WRITTEN WORK

	a.	*b.*	*c.*
1.	$300 + 200 =$	$600 - 200 =$	$300 + 50 =$
2.	$300 + 400 =$	$700 - 500 =$	$400 + 32 =$
3.	$500 + 300 =$	$800 - 300 =$	$700 + 95 =$
4.	$600 + 300 =$	$900 - 700 =$	$800 + 62 =$
5.	$600 + 400 =$	$1000 - 800 =$	$600 + 80 =$

	d.	*e.*	*f.*
1.	$260 + 320 =$	$470 - 350 =$	$320 + 80 =$
2.	$720 + 250 =$	$750 - 420 =$	$630 + 70 =$
3.	$340 + 620 =$	$930 - 710 =$	$560 + 40 =$
4.	$530 + 740 =$	$760 - 250 =$	$750 + 50 =$
5.	$370 + 520 =$	$880 - 770 =$	$440 + 60 =$

II. ORAL WORK

1. How many units are 6 units and 5 units?
2. 11 units equal how many tens and units?
3. 15 units equal how many tens and units?
4. 5 tens + 6 units = — units.
5. 8 tens + 8 units = — units.
6. 7 tens + 5 units = — units.
7. 11 tens equal how many hundreds and tens?
8. 24 tens equal how many hundreds and tens?
9. 324 units equal how many hundreds, tens, and units?

I. ORAL WORK

1. How many cents equal \$1? \$3? \$9? \$10?

2. How many cents equal \$$\frac{1}{2}$? \$$1\frac{1}{2}$? \$$\frac{1}{4}$? \$$1\frac{1}{4}$?

3. In writing United States money, dollars are separated from cents by a small point, or dot (.), called the **Decimal Point.** All figures at the left of the point denote dollars. The first two places at the right of the point are occupied by cents. Thus, \$3.45 is read, three dollars and forty-five cents. When the number of cents to be expressed is less than 10, a cipher must be written in the first place at the right of the decimal point. Thus, \$.05 = five cents; \$.09 = nine cents; \$1.02 = one dollar and two cents.

II. ORAL WORK

Read the following:

	a.	*b.*	*c.*	*d.*
1.	\$.01	\$.19	\$46.81	\$804.09
2.	\$.09	\$.20	\$100.16	\$800.60
3.	\$.10	\$.95	\$210.46	\$4050.60
4.	\$.11	\$7.85	\$748.06	\$3007.09
5.	\$.13	\$10.16	\$707.07	\$6427.39
6.	\$.15	\$21.03	\$799.99	\$9426.72
7.	\$.05	\$39.62	\$800.80	\$84062.80

I. WRITTEN WORK

Express by figures:

1. Four dollars and seventy-five cents.

2. Twenty-eight dollars and thirty-seven cents.

3. Two hundred forty-nine dollars and fourteen cents.

4. Nine hundred sixty dollars and sixty-five cents.

5. Two thousand forty-nine dollars and seventy-two cents.

6. Seventy-eight thousand four hundred dollars and ten cents.

7. Three hundred twenty-nine dollars and six cents.

8. Nine thousand one hundred thirty-two dollars and seventy-six cents.

9. Eight thousand dollars and seventy-seven cents.

II. WRITTEN WORK

Write the following as cents:

MODEL. — $49.60 = 4960¢.

	a.	*b.*	*c.*
1.	$86.32	$108.04	$3964.70
2.	$4.70	$100.40	$3006.09
3.	$5.05	$360.60	$7064.00

I. WRITTEN WORK

Copy and learn:

	a.	*b.*	*c.*
1.	$50¢ = \$\frac{1}{2}$	$33\frac{1}{3}¢ = \$\frac{1}{3}$	$12\frac{1}{2}¢ = \$\frac{1}{8}$
2.	$25¢ = \$\frac{1}{4}$	$66\frac{2}{3}¢ = \$\frac{2}{3}$	$10¢ = \$\frac{1}{10}$
3.	$75¢ = \$\frac{3}{4}$	$20¢ = \$\frac{1}{5}$	$6\frac{1}{4}¢ = \$\frac{1}{16}$

Express the following as dollars and cents:

	d.	*e.*	*f.*	*g.*
1.	$\$14\frac{1}{2}$	$\$5\frac{3}{4}$	$\$29\frac{1}{10}$	$\$64\frac{1}{3}$
2.	$\$18\frac{1}{4}$	$\$24\frac{1}{5}$	$\$15\frac{3}{10}$	$\$75\frac{3}{5}$

Add:

1.	2.	3.	4.
\$1.21	\$14.00	\$230.52	\$316.00
3.34	21.30	132.25	123.62
4.40	13.44	200.01	520.36

II. WRITTEN WORK

1. Find the sum of \$12.53, \$51.20, and \$24.16.

2. Find the sum of \$351.60, \$427.24, and \$20.03.

3. A man bought two horses and a carriage. For one horse he paid \$215; for the other \$270; for the carriage \$200. How much did all cost?

4. \$321 + \$146 + \$510 = \$——;
\$2142 + \$2245 + \$4501 = \$——.

WRITTEN WORK

Add 384, 928, and 452.

Beginning at the right and adding, we find that the first column contains 14 units. Since 10 units make 1 ten, 14 units are equal to 1 ten and 4 units. Writing the 4 units under the column of units, and carrying the 1 ten to the column of tens and adding, we get 16 tens. Since 10 tens make 1 hundred, 16 tens equal 1 hundred and 6 tens. Writing the 6 tens under the column of tens, and carrying the 1 hundred to the column of hundreds and adding, we get 17 hundreds. Since 10 hundreds make 1 thousand, 17 hundreds are equal to 1 thousand and 7 hundreds. We write the 7 hundreds under the column of hundreds, and the 1 thousand in the thousands' place. Hence the sum of 384, 928, and 452 is 1 thousand, 7 hundreds, 6 tens, and 4 units, or 1764.

OPERATION

$$\begin{array}{r} 384 \\ 928 \\ 452 \\ \hline 1764 \end{array}$$

1. Add: 784, 367, 241; 364, 729, 386; 192, 384, 576.
2. Add: 987, 654, 321; 123, 456, 789; 784, 364, 192.

Add:

1.	2.	3.	4.	5.	6.
$346	$895	$876	$963	$964	$964
724	321	583	747	321	742
321	479	764	806	846	197

I. WRITTEN WORK

Add:

1.	2.	3.	4.	5.	6.	7.	8.
36	72	84	37	19	82	71	43
24	84	36	29	26	63	87	45
32	29	21	43	34	18	55	34
67	63	74	84	92	24	36	54

9.	10.	11.	12.	13.	14.	15.	16.
46	39	24	38	39	79	19	27
64	93	42	83	93	92	91	72
72	76	65	54	82	34	18	37
27	67	56	45	28	43	81	73

II. WRITTEN WORK

Add:

1.	2.	3.	4.	5.	6.
342	432	467	826	344	494
526	729	329	628	532	376
384	362	532	286	786	543

7.	8.	9.	10.	11.	12.
346	527	643	776	333	463
932	396	581	384	476	529
746	729	437	922	820	744

13.	14.	15.	16.	17.	18.
3645	4186	5832	9684	3346	8643
7238	3254	7641	7632	7219	5386

I. ORAL WORK

Read the following numbers:

	a.	*b.*	*c.*	*d.*
1.	3632	36001	376044	239012
2.	4061	72106	306041	835640
3.	7006	75004	706005	721039
4.	3807	60024	800750	908043

II. WRITTEN WORK

1. 2)40 2)60 2)80 2)400 2)600 2)800 2)4,000
2. 3)90 3)600 3)900 3)6,000 3)9,000 3)60,000
3. 4)80 4)800 4)8,000 4)80,000 4)880 4)8,800
4. 5)50 5)500 5)5,000 5)50,000 5)5,500 5)55,000

III. ORAL WORK

Read:

	a.	*b.*	*c.*	*d.*
1.	$ 84.62	$ 364.61	$ 360.72	$ 9641.20
2.	$ 96.51	$ 724.08	$ 365.81	$ 8042.09
3.	$ 90.01	$ 420.60	$ 900.72	$ 6005.90
4.	$ 86.10	$ 800.09	$ 810.04	$ 9000.09

WRITTEN WORK

Add $24.60, $31.42, $7.30, $3.74, and $7.45.

We write dollars under dollars, and cents under cents, and add as in the model example, Lesson 40.

OPERATION

$24.60
31.42
7.30
3.74
7.45
$74.51

1. $34.21 + $6.07 + $26.30 + $8.07 + $3.71 =

2. $41.06 + $.37 + $1.61 + $.38 + $186.41 =

3. Add twenty-three dollars and fourteen cents, twenty-seven dollars and nine cents, nine dollars and forty-six cents, one dollar and seventy-five cents, and eighty-seven cents.

4. Find the sum of thirty-six dollars and twenty cents, one hundred eighty dollars and thirty-two cents, seventy-five cents, eighty-seven cents, three dollars and three cents.

5. Find the sum of one hundred ninety-three dollars, two hundred eight dollars and sixty-five cents, one hundred eighty-six dollars and seventeen cents.

6. Find the sum of two hundred nineteen dollars and thirty-six cents, four hundred thirty-two dollars and three cents, twenty-nine dollars and seven cents, nine dollars and two cents.

I. ORAL WORK

How many are:

	a.	*b.*	*c.*
1.	$8 and $9?	$12 and $8?	$28 and $9?
2.	$6 and $7?	$22 and $8?	$48 and $9?
3.	$7 and $8?	$62 and $8?	$78 and $9?
4.	$4 and $7?	$34 and $9?	$17 and $8?
5.	$3 and $8?	$54 and $9?	$47 and $8?

II. ORAL WORK

1. A man bought a ton of coal for $7, some potatoes for $9, and some flour for $8. How much did he pay for all?

2. A girl bought a comb for $.30, a toothbrush for $.15, and a piece of soap for $.20. How much did she pay for all?

3. If I sold 12 bu. of onions at one time, and 18 bu. at another time, and have 8 bu. left, how many bushels had I at first?

4. Nelson caught 9 fish on Monday, 8 on Tuesday, and 10 on Wednesday. How many did he catch in all?

5. Alice spelled 15 words on Monday and 16 on Tuesday. On Wednesday she spelled 3 words less than on Tuesday. How many words did she spell in the three days?

I. WRITTEN WORK

1. Add one hundred thirty-six, seventy-nine, two hundred sixty-four, one thousand three hundred twenty, and eighty-six.

2. Add three hundred seventy-seven, nine hundred thirty-six, seven thousand four hundred nine, eight thousand seven hundred six, and two thousand two hundred two.

3. Add thirty-three thousand three hundred thirty-three, twenty-two thousand two hundred twenty-two, forty-four thousand four hundred forty-four, seventeen thousand seven hundred seventeen.

II. WRITTEN WORK

1. A miller bought 3240 bu. of corn in January, 2860 bu. in February, 5060 bu. in March, and 4700 bu. in April. How many bushels did he buy in all?

2. A farmer sold 1200 bu. of wheat for $1800, 1640 bu. of corn for $1312, and 2060 bu. of oats for $1030. How many bushels of grain did he sell, and how much did he receive for all?

3. A dealer paid $3456.40 for cattle at one time, and $7463.92 at another time. How much did he pay in all?

4. Two vessels sail in opposite directions from the same point. After one has gone 729 miles and the other 640 miles, how far apart are they?

I. WRITTEN WORK

Add:

1.	2.	3.	4.	5.	6.	7.
327	281	123	987	345	762	642
436	546	456	654	678	381	789
903	326	789	321	901	407	301
504	741	909	876	276	206	276
723	639	876	543	543	913	538

8.	9.	10.	11.	12.	13.	14.
$3.75	$3.92	$1.85	$3.57	$4.36	$3.04	$7.00
4.26	2.41	.37	4.32	.79	.06	8.31
.72	.31	.62	9.16	.84	2.07	4.01
.84	.64	4.89	.34	2.38	5.17	.06
5.30	.72	5.26	.26	5.72	3.02	.09
7.62	1.39	.33	.75	.46	8.92	3.21
$	$	$	$	$	$	$

II. WRITTEN WORK

Express as dollars and cents and find the sum:

	a.	*b.*	*c.*
1.	1\frac{1}{2}$ = $1.50	8\frac{3}{4}$ = $	$\frac{1}{2}$ = $
2.	3\frac{1}{4}$ =	6\frac{1}{10}$ =	$\frac{1}{4}$ =
3.	7\frac{1}{5}$ =	9\frac{3}{10}$ =	$\frac{3}{4}$ =
4.	5\frac{2}{5}$ =	4\frac{5}{10}$ =	$\frac{1}{10}$ =
	$	$	$

5. Find the sum of seven dollars and one half; four dollars and a quarter; nine dollars and three quarters; two dimes; a nickel, and one cent.

I. WRITTEN WORK

Subtract:

1.	2.	3.	4.	5.	6.	7.
345	567	654	738	846	729	826
213	125	321	326	532	617	325

8.	9.	10.	11.	12.	13.	14.
763	853	964	897	748	957	873
453	721	722	764	326	324	651

II. WRITTEN WORK

1.	2.	3.	4.	5.
3462	8612	9463	8639	9876
1341	7101	2342	7216	5432

6.	7.	8.	9.	10.
8888	9999	7777	9784	8467
6666	3456	4567	6123	7352

III. WRITTEN WORK

1.	2.	3.	4.
87,578	94,682	87,601	76,042
36,276	70,531	32,501	35,041

5.	6.	7.	8.
$ 787.67	$ 723.86	$ 876.87	$ 963.48
456.23	523.42	432.36	252.25

9.	10.	11.	12.
$ 598.96	$ 9876.54	$ 8765.98	$ 5689.52
342.33	234.53	3524.36	4376.41

WRITTEN WORK

Take 456 from 735.

For convenience we write the larger number above the smaller. Since 6 units cannot be taken from 5 units, we borrow, or take, 1 ten (10 units), from the 3 tens, and add it to the 5 units, thus making 15 units. We then subtract the 6 units from the 15 units and write the difference, or 9 units, under the column of units. As 1 ten has been taken from the 3 tens, only 2 tens remain. Since 5 tens cannot be taken from 2 tens, we borrow, or take, 1 hundred (10 tens), from the 7 hundreds and add it to the 2 tens, thus making 12 tens. We then subtract the 5 tens from the 12 tens, and write the difference, or 7 tens, under the column of tens. As 1 hundred has been taken from 7 hundreds, only 6 hundreds remain. Subtracting 4 hundreds from 6 hundreds, we have 2 hundreds, which we write under the column of hundreds and the answer is 279.

OPERATION

735	Minuend
456	Subtrahend
279	Difference

Subtract:

1.	2.	3.	4.	5.	6.
476	653	706	965	640	735
287	469	537	386	398	609
7.	**8.**	**9.**	**10.**	**11.**	**12.**
$ 326	$ 462	$ 562	$ 683	$ 705	$ 983
179	329	379	479	643	806

I. WRITTEN WORK

Subtract:

1.	2.	3.	4.	5.	6.	7.	8.
370	460	730	820	960	360	520	240
84	86	56	44	75	92	132	151
9.	**10.**	**11.**	**12.**	**13.**	**14.**	**15.**	**16.**
381	461	321	437	904	603	406	524
174	239	148	289	729	345	317	336

II. WRITTEN WORK

1.	2.	3.	4.	5.	6.	7.	8.
400	500	600	700	800	900	1000	1000
321	231	442	252	634	724	835	765
9.	**10.**	**11.**	**12.**	**13.**	**14.**	**15.**	**16.**
400	500	600	700	800	900	700	500
306	201	407	509	619	728	309	499

III. WRITTEN WORK

1.	2.	3.	4.	5.	6.
1000	1000	1000	1000	1000	1000
246	257	258	357	562	864
7.	**8.**	**9.**	**10.**	**11.**	**12.**
3142	4869	7241	3806	7052	3006
2357	1869	3456	2759	4376	1069
13.	**14.**	**15.**	**16.**	**17.**	**18.**
7384	5968	4217	9310	5060	9002
3495	2979	1328	7421	3171	2113

I. ORAL WORK

How many are: (Read in columns.)

	a.	*b.*	*c.*	*d.*	*e.*	*f.*	*g.*	*h.*
1.	21 − 2?	− 3?	− 4?	− 5?	− 6?	− 7?	− 8?	− 9?
2.	41 − 2?	− 3?	− 4?	− 5?	− 6?	− 7?	− 8?	− 9?
3.	61 − 2?	− 3?	− 4?	− 5?	− 6?	− 7?	− 8?	− 9?
4.	91 − 2?	− 3?	− 4?	− 5?	− 6?	− 7?	− 8?	− 9?

II. ORAL WORK

How many are: (Read in columns.)

	a.	*b.*	*c.*	*d.*	*e.*	*f.*
1.	$23 − $4?	− $7?	− $6?	− $9?	− $5?	− $8?
2.	$63 − $4?	− $7?	− $6?	− $9?	− $5?	− $8?
3.	$83 − $4?	− $7?	− $6?	− $9?	− $5?	− $8?
4.	$93 − $4?	− $7?	− $6?	− $9?	− $5?	− $8?

III. ORAL WORK

How many are: (Read in lines.)

	a.	*b.*	*c.*
1.	17 pt. − 9 pt.?	38 bu. − 9 bu.?	27 ft. − 8 ft.?
2.	37 pt. − 9 pt.?	78 bu. − 9 bu.?	77 ft. − 8 ft.?
3.	87 pt. − 9 pt.?	98 bu. − 9 bu.?	57 ft. − 8 ft.?

I. WRITTEN WORK

1. From 721 take: 342; 265; 456; 586; 154.
2. From 802 take: 286; 709; 304; 405; 621.
3. From $832 take: $263; $346; $456; $527; $602; $708.
4. From 8602 bushels take 3046 bushels.
5. From 8000 pounds take 864 pounds.
6. From 30021 rods take 2736 rods.

II. WRITTEN WORK

Subtract:

1.	2.	3.	4.	5.
$78.31	$76.04	$63.71	$56.09	$90.10
39.42	37.25	24.82	27.09	30.71

6.	7.	8.	9.	10.
$300.00	$706.40	$800.36	$706.00	$300.30
126.17	317.39	501.09	509.11	40.46

III. WRITTEN WORK

Find the difference between:

	a.	*b.*
1.	452 and 809	33 and 9320
2.	747 and 908	99 and 1000
3.	2324 and 4368	386 and 4264
4.	3406 and 6039	7328 and 10,000
5.	4639 and 6704	5604 and 12,362

WRITTEN WORK

1. A merchant bought 54 barrels of apples for $162; 49 barrels of flour for $184; and 75 barrels of potatoes for $150. How many barrels did he get, and how much did he pay for them?

2. A drover has 236 sheep in one field, and 472 in another field. How many must he take from the second field in order to have an equal number in each field?

3. A father, dying, left his three sons $21,640. To his oldest son he gave $9500; to his second son, $7465, and the remainder to his youngest son. How much did the youngest receive?

4. If I have $4321.60 in bank, and draw out at one time $1236.40, and at another time $864.65, how much will I have left in bank?

5. Mr. Wilson borrowed $386.75. He paid at one time $141.62, and at another time $92.46. How much does he still owe?

6. The sum of two numbers is 4329; one of the numbers is 3146. What is the other number?

7. A man bought a farm for $2800, and built a barn upon it costing $1875. If he sold his property for $5000, how much did he make?

8. If I bought clothes for $7.99, and gave in payment a $10 bill, what change should I receive?

WRITTEN WORK

1. Two men start from the same point and travel in opposite directions. After one has traveled 96 miles, and the other 126 miles, how far apart are they?

2. In a school of 236 pupils there are 121 boys. The girls occupy two rooms, in one of which there are 53 girls. How many girls are in the other room?

3. A man bought a farm for $9500. After paying $115 for improvements, and $37 for taxes, he sold it for $10,000. How much did he gain?

4. George has $125.62. How much must he earn before he will have enough to buy a horse and buggy worth $275?

5. Mr. Miller has 482 barrels of vinegar. If he sells 65 bbl. on Monday, 60 bbl. on Tuesday, 45 bbl. on Wednesday, and 75 bbl. on Thursday, how many barrels must he sell on Friday so that he may have 80 bbl. left on Saturday?

6. The difference between two numbers is 30; the larger number is 89. What is the smaller number?

7. If I buy at a store coffee for 70¢, sugar for $1.00, tea for 55¢, and give a $5 bill in payment, how much change should I receive?

8. $69.95 + $82.36 − $30.15 − $43.36 + $25.84 =

9. $52.23 + $68 + $60.38 − $63.81 − $5.85 =

ORAL WORK

1. Mr. Burns is 37 years old. His son is 9 years old. Mr. Burns is how many years older than his son? What is the sum of their ages?

2. In a school of 67 pupils only 54 are present. How many pupils are absent?

3. John bought a collar for $\$\frac{1}{5}$, and a pair of cuffs for $\$\frac{1}{4}$. How many cents did he pay for both?

4. A man bought a suit of clothes for $\$40$. If he paid $\$23$ for the coat and $\$10$ for the trousers, how much did he pay for the vest?

5. A lady paid $\$32$ for a dress, $\$7$ for a hat, and $\$5$ for a parasol. How much less than $\$50$ did she pay for all?

6. There are 31 peach trees, 8 pear trees, and 9 cherry trees in a field. How many trees are there in all?

7. A lady sold 18 yards of lace to one customer, 19 yards to another, and 9 yards to another. How many yards did she sell?

8. A boy caught 20 fish in the forenoon, and 7 less in the afternoon. How many did he catch during the day?

9. A lady has $\$45$. How much more money will she need to buy a $\$70$ bicycle?

MULTIPLICATION TABLE.—ORAL WORK

(Learn thoroughly.)

1× 1= 1	2× 1= 2	3× 1= 3	4× 1= 4
1× 2= 2	2× 2= 4	3× 2= 6	4× 2= 8
1× 3= 3	2× 3= 6	3× 3= 9	4× 3=12
1× 4= 4	2× 4= 8	3× 4=12	4× 4=16
1× 5= 5	2× 5=10	3× 5=15	4× 5=20
1× 6= 6	2× 6=12	3× 6=18	4× 6=24
1× 7= 7	2× 7=14	3× 7=21	4× 7=28
1× 8= 8	2× 8=16	3× 8=24	4× 8=32
1× 9= 9	2× 9=18	3× 9=27	4× 9=36
1×10=10	2×10=20	3×10=30	4×10=40
1×11=11	2×11=22	3×11=33	4×11=44
1×12=12	2×12=24	3×12=36	4×12=48
5× 1= 5	6× 1= 6	7× 1= 7	8× 1= 8
5× 2=10	6× 2=12	7× 2=14	8× 2=16
5× 3=15	6× 3=18	7× 3=21	8× 3=24
5× 4=20	6× 4=24	7× 4=28	8× 4=32
5× 5=25	6× 5=30	7× 5=35	8× 5=40
5× 6=30	6× 6=36	7× 6=42	8× 6=48
5× 7=35	6× 7=42	7× 7=49	8× 7=56
5× 8=40	6× 8=48	7× 8=56	8× 8=64
5× 9=45	6× 9=54	7× 9=63	8× 9=72
5×10=50	6×10=60	7×10=70	8×10=80
5×11=55	6×11=66	7×11=77	8×11=88
5×12=60	6×12=72	7×12=84	8×12=96
9× 1= 9	10× 1= 10	11× 1= 11	12× 1= 12
9× 2= 18	10× 2= 20	11× 2= 22	12× 2= 24
9× 3= 27	10× 3= 30	11× 3= 33	12× 3= 36
9× 4= 36	10× 4= 40	11× 4= 44	12× 4= 48
9× 5= 45	10× 5= 50	11× 5= 55	12× 5= 60
9× 6= 54	10× 6= 60	11× 6= 66	12× 6= 72
9× 7= 63	10× 7= 70	11× 7= 77	12× 7= 84
9× 8= 72	10× 8= 80	11× 8= 88	12× 8= 96
9× 9= 81	10× 9= 90	11× 9= 99	12× 9=108
9×10= 90	10×10=100	11×10=110	12×10=120
9×11= 99	10×11=110	11×11=121	12×11=132
9×12=108	10×12=120	11×12=132	12×12=144

I. ORAL WORK

How many are:

	a.	*b.*	*c.*	*d.*
1.	2×20?	8×20?	2×50?	2×200?
2.	2×30?	9×20?	3×50?	3×200?
3.	3×30?	10×20?	4×50?	4×200?
4.	4×30?	3×40?	3×70?	5×200?
5.	5×30?	4×40?	3×80?	6×200?

II. ORAL WORK

How many are:

	a.	*b.*	*c.*	*d.*
1.	3×21?	3×42?	2×72?	2×83?
2.	3×23?	2×62?	3×72?	3×83?
3.	2×41?	3×62?	4×72?	4×82?
4.	3×43?	4×62?	3×81?	5×91?
5.	4×32?	3×53?	4×81?	7×91?

III. ORAL WORK

How many are:

	a.	*b.*	*c.*
1.	$2 \times 21, +10$?	$3 \times 22, -10$?	$3 \times 50, +10$?
2.	$3 \times 21, +7$?	$4 \times 22, -20$?	$4 \times 90, -80$?
3.	$4 \times 21, +6$?	$3 \times 33, -11$?	$4 \times 60, -100$?
4.	$2 \times 32, +6$?	$2 \times 42, -14$?	$6 \times 60, -60$?
5.	$3 \times 30, +10$?	$3 \times 51, -10$?	$9 \times 60, -200$?

I. WRITTEN WORK

Multiply:

1.	2.	3.	4.	5.	6.	7.	8.
231	122	203	204	303	412	301	413
×3	×4	×3	×3	×3	×4	×5	×3

9.	10.	11.	12.	13.	14.	15.	16.
423	212	809	607	812	901	720	940
×3	×4	×3	×4	×4	×8	×4	×2

II. WRITTEN WORK

1.	2.	3.	4.	5.	6.
$4.10	$3.22	$2.41	$6.20	$7.09	$8.06
×4	×4	×2	×3	×2	×5

7.	8.	9.	10.	11.	12.	13.
$4.09	$8.20	$40	$60	$70	$50	$30
×6	×4	×8	×9	×10	×10	×10

III. WRITTEN WORK

1. How much will 4 boxes of soap cost at $3.20 a box?

2. How much will 8 lb. of tea cost at $1.10 a pound?

3. How much will 10 wagons cost at $50 each?

4. How much will 4 doz. handkerchiefs cost at $3.20 a dozen?

5. How much will 5 hats cost at $2.10 each?

6. How much will 9 bu. of wheat cost at $1.05 a bushel?

7. How much will 10 chains cost at $1.08 each?

I. WRITTEN WORK

Add:

1.	2.	3.	4.	5.	6.	7.
321	746	326	963	600	386	801
436	532	541	425	509	729	796
742	709	822	726	308	532	543
963	824	654	384	421	426	218
821	326	721	906	726	532	516
246	542	163	541	541	906	743

II. WRITTEN WORK

Subtract:

1.	2.	3.	4.	5.	6.	7.
579	421	643	572	846	536	762
237	179	474	369	729	349	398

8.	9.	10.	11.	12.	13.
$7.10	$8.30	$7.53	$8.21	$9.33	$12.20
2.31	4.36	5.49	7.19	6.45	3.81

III. WRITTEN WORK

1. From eight dollars and nineteen cents take two dollars and thirty-eight cents.

2. From two hundred thirty-six dollars and thirty-one cents take one hundred thirty-five dollars and forty-seven cents.

3. Add $361.50 and one hundred thirty-eight dollars and fifty-four cents, and subtract from the sum two hundred thirty-nine dollars and sixty-five cents.

WRITTEN WORK

Multiply 538 by 7.

OPERATION

538
538
538
538
538
538
538
3766

To multiply 538 by 7 means to find the sum obtained by using 538 seven times, as shown in the operation at the right.

Instead of writing 538 *seven times*, we write it but *once*, with the multiplier, 7, beneath, as shown in the operation below.

For convenience we write the multiplier under the multiplicand.

OPERATION

538 Multiplicand
7 Multiplier
3766 Product

Beginning at the right to multiply, 7 times 8 units are 56 units, which are equal to 5 tens and 6 units. The 6 units we write in the units' place, and the 5 tens we add to the product of tens. 7 times 3 tens are 21 tens, and 5 tens are 26 tens. 26 tens are equal to 2 hundreds and 6 tens. We write the 6 tens in the tens' place, and add the 2 hundreds to the product of hundreds. 7 times 5 hundreds are 35 hundreds, and 2 hundreds are 37 hundreds. We write the 7 hundreds in the hundreds' place, and the 3 thousands in the thousands' place. Therefore we find the entire product to be 3 thousands, 7 hundreds, 6 tens, and 6 units, or 3766.

1.	2.	3.	4.	5.	6.	7.	8.
648	239	536	721	462	456	864	847
×5	×7	×4	×4	×7	×3	×3	×6

I. WRITTEN WORK

Multiply:

1.	2.	3.	4.	5.	6.	7.
352	729	842	639	249	367	746
× 3	× 3	× 4	× 4	× 5	× 5	× 5
8.	**9.**	**10.**	**11.**	**12.**	**13.**	**14.**
$465	$732	$396	$532	$289	$321	$726
× 6	× 6	× 6	× 6	× 6	× 7	× 7

II. WRITTEN WORK

1.	2.	3.	4.	5.	6.	7.
$8.46	$7.38	$6.42	$5.63	$3.87	$7.17	$5.39
× 4	× 4	× 4	× 4	× 8	× 8	× 8
8.	**9.**	**10.**	**11.**	**12.**	**13.**	**14.**
$7.85	$9.36	$3.09	$7.08	$8.60	$7.30	$7.32
× 8	× 8	× 5	× 6	× 8	× 7	× 9

III. WRITTEN WORK

Multiply 785 by 3; by 4; by 5; by 6; by 7; by 8; by 9. Multiply 392 by these numbers.

Multiply:

	a.	*b.*	*c.*
1.	49 bu. by 8	79 pk. by 8	286 lb. by 5
2.	76 gal. by 5	67 pt. by 4	342 oz. by 7
3.	57 qt. by 3	58 in. by 6	460 mo. by 6
4.	484 ft. by 7	94 rd. by 5	325 yr. by 4
5.	58 yd. by 9	47 doz. by 9	276 hr. by 5

ORAL WORK

1. There are 16 oz. in 1 lb. How many ounces are there in 5 lb.? in 6 lb.?

2. 24 sheets of paper make 1 quire. How many sheets are 3 quires? 4 quires? 5 quires?

3. How much will 8 sheep cost at $3.20 each?

4. Find the cost of 8 turkeys at $1.25 each.

5. Find the cost of a half-quire of paper at $.01\frac{1}{2}$ a sheet.

6. Find the cost of one dozen eggs if each egg costs $.02\frac{1}{2}$.

7. Find the cost of 6 doz. eggs at $.12\frac{1}{2}$ a dozen.

8. There are $16\frac{1}{2}$ ft. in 1 rd. How many feet are there in 4 rd.?

9. There are 320 rods in 1 mile. How many rods are there in 2 miles? in 3 miles?

10. How many minutes are there in 10 hours? in 20 hr.? in 30 hr.?

11. How much will 8 lb. of beef cost at $.12\frac{1}{2}$ a pound?

12. Find the cost of 4 boxes of strawberries if 2 boxes cost $.25. Find the cost of 8 boxes.

13. How much will 1 gal. 1 pt. of oil cost at 8¢ a pint?

14. How much will 2 lb. of raisins cost at $.16\frac{1}{2}$ a pound?

WRITTEN WORK

1. There are 52 weeks in a year. How many weeks are there in 7 years? in 9 years?

2. A ship sailed 196 miles in 1 day. At the same rate, how far would it sail in 6 days?

3. If a train of cars runs 32 miles an hour, how far will it run in 8 hr. 30 min.? 8×32, $+\frac{1}{2}$ of $32 = ?$

4. Mr. Long employs 8 clerks in his store. Their wages average $40.82 per month each. How much does Mr. Long pay his 8 clerks each month?

5. A man earns $62.75 per month. His expenses each month are $25.50. How much can he save in 6 months?

6. How much will 5 pairs of shoes cost at $4.85 a pair?

7. If a bicycle wheel revolves 1056 times in going 1 mile, how many times will it revolve in going 8 miles?

8. If I pay $4.75 for a ton of coal, how much will 7 tons cost at the same price?

9. Find the cost of 20 yd. of Brussels carpet at $2.25 a yard.

10. Mr. Toomb bought 8 boxes of soap, each box containing 50 bars. How many bars were there in the 8 boxes?

I. WRITTEN WORK

Multiply:

1.	2.	3.	4.	5.	6.
6000	7000	3500	4600	3800	4500
× 10	× 20	× 20	× 50	× 50	× 40
60000					
7.	**8.**	**9.**	**10.**	**11.**	**12.**
3900	7200	9600	6800	5600	7300
× 50	× 60	× 70	× 80	× 90	× 100

II. WRITTEN WORK

Find the products of the following:

	a.	*b.*	*c.*
1.	425×7	3806×7	2345×7
2.	273×8	4271×9	6789×3
3.	468×5	3084×6	8765×4
4.	325×6	8079×8	2684×5

III. WRITTEN WORK

1. $\$43.85 + \$91.36 - \$39.51 - \$42.65 + \$65.36 - \$39.46 =$

2. $\$42.93 + \$17.39 + \$64.86 - \$38.78 - \$26.45 - \$20.81 =$

3. $\$86.37 - \$65.36 + \$85.85 - \$72.41 + \$51.15 - \$55.55 =$

4. Find the cost of 4 rocking-chairs at \$ 9.75 each.

5. Find the cost of $\frac{1}{2}$ doz. silver spoons at \$ 1.25 each.

6. Find the cost of 9 tables at \$ 12.50 each.

I. ORAL WORK

Read the following:

	a.	*b.*	*c.*	*d.*
1.	\$.62	\$3896.40	30,647	386,429
2.	\$.75	\$7864.31	52,094	706,049
3.	\$.08	\$9706.52	79,560	500,306
4.	\$.10	\$7005.34	84,397	520,007
5.	\$.87	\$7101.09	96,004	700,017

II. ORAL WORK

	a.	*b.*
1.	$2 \times 60¢ = 120¢ = \$1.20$	4 half-dollars = \$—
2.	$4 \times 40¢ = \text{—}¢ = \$\text{—}$	9 half-dollars = \$—
3.	$7 \times 50¢ = \text{—}¢ = \$\text{—}$	9 quarter-dollars = \$—
4.	$8 \times 90¢ = \text{—}¢ = \$\text{—}$	21 half-dollars = \$—
5.	$10 \times 80¢ = \text{—}¢ = \$\text{—}$	21 quarter-dollars = \$—

III. ORAL WORK

1. Find the cost of 8 bu. of corn at 60¢ a bushel.
2. Find the cost of 5 lb. of coffee at 40¢ a pound.
3. Find the cost of 8 doz. oranges at 30¢ a dozen.
4. Find the cost of 20 yd. of calico at 10¢ a yard.
5. Find the cost of 10 boxes of sardines at 20¢ a box.
6. Find the cost of 10 cans of salmon at 22¢ a can.

I. WRITTEN WORK

Multiply 578 by 48.

To multiply 578 by 48 means that 578 is to be taken 8 times + 40 times.

OPERATION I.

$8 \times 578 = 4624 =$ 1st partial product
$40 \times 578 = 23120 =$ 2d partial product
$48 \times 578 = 27744 =$ entire product

In practice, however, the numbers are usually arranged, and the multiplication performed, as shown in the following operation:

OPERATION II.

578
48
4624
2312
27744

It will be noticed that the cipher at the right of the second partial product, in operation I. does not appear in operation II. As ciphers do not affect the result in addition, in such cases, they are omitted in practice.

II. WRITTEN WORK

Multiply:

1.	2.	3.	4.	5.	6.	7.
427	735	639	278	267	385	479
× 36	× 43	× 54	× 53	× 45	× 36	× 34

8.	9.	10.	11.	12.	13.	14.
309	408	507	630	870	867	960
× 39	× 43	× 52	× 58	× 38	× 35	× 56

I. WRITTEN WORK

Multiply:

1.	2.	3.	4.	5.	6.	7.
327	543	286	574	743	836	754
× 46	× 65	× 38	× 73	× 54	× 63	× 37

8.	9.	10.	11.	12.	13.	14.
426	329	437	826	728	392	478
× 57	× 76	× 59	× 47	× 59	× 95	× 85

II. WRITTEN WORK

1.	2.	3.	4.	5.	6.	7.
$3.40	$5.71	$8.64	$8.17	$6.57	$7.63	$4.78
× 34	× 26	× 37	× 49	× 48	× 74	× 75

8.	9.	10.	11.	12.	13.	14.
$3.10	$7.09	$6.08	$5.04	$.63	$.87	$.58
× 36	× 49	× 57	× 65	× 79	× 84	× 56

III. WRITTEN WORK

1.	2.	3.	4.	5.	6.	7.
846	729	428	860	729	938	706
× 10	× 20	× 30	× 40	× 50	× 60	× 80
8460						

8.	9.	10.	11.	12.	13.
$7.84	$5.86	$4.79	$6.38	$9.50	$5.31
× 20	× 30	× 40	× 50	× 70	× 80
$156.80					

I. WRITTEN WORK

Add:

1.	2.	3.	4.	5.	6.	7.
345	746	543	463	987	567	3456
789	385	218	582	654	890	7809
306	760	706	746	321	129	2386
470	509	593	39	130	345	4702
538	428	846	52	472	678	3009
726	396	537	743	800	901	426
387	543	987	968	509	386	39

II. WRITTEN WORK

Subtract:

1.	2.	3.	4.	5.	6.
7406	5384	7906	3006	9206	3006
3547	2079	3847	2125	3549	2178

7.	8.	9.	10.	11.	12.
$38.46	$59.50	$76.31	$51.60	$90.00	$50.00
19.47	29.84	21.56	27.81	8.11	9.01

III. WRITTEN WORK

Subtract:

1.	2.	3.	4.	5.	6.
$30.60	$76.09	$73.00	$10.00	$99.99	$10.00
1.79	9.10	.19	.99	98.98	9.99

7. Multiply 479 by 57; by 49; by 37; by 68.

8. Multiply $7.69 by 75; by 94; by 73; by 86; by 64.

WRITTEN WORK

Find the amount of the following bill:

WILKESBARRE, PA., Aug. 6, 1898.

1. JOHN RICHEY,

Bought of ISAAC LONG.

13 yd.	Silk,	at	$ 1.85	$
27 "	Flannel,	@	.75	
45 "	Muslin,	@	.12	
65 "	Calico,	@	.07	
87 "	Sheeting,	@	.36	
25 "	Ribbon,	@	.25	
45 "	Lace,	@	.75	
				$

Make out the following bills, using the form given above:

2. Philadelphia, Pa., Aug. 7, 1898, J. H. Lang bought of J. J. Robbins, 45 bu. wheat at $ 1.07; 53 bu. corn at 58¢; 75 bu. oats at 43¢; 25 bu. rye at 65¢; 25 bbl. wheat flour at $ 6.30; 42 bu. barley at 30¢; 70 bu. buckwheat at 48¢.

3. San Francisco, Cal., Aug. 8, 1897, Fred Webber bought of William Stoddart, 6 bbl. muskmelons at $ 1.25; 14 bbl. pears at $ 3.25; 40 lb. cheese at 13¢; 30 lb. coffee at 43¢; 80 lb. starch at 9¢; 17 bbl. apples at $ 1.10; 45 bbl. potatoes at $ 1.20.

I. WRITTEN WORK

1. $(\$91.62 + \$30.90) \times (4 + 19) =$
2. $\$69.40 - \$29.31 + \$189.79 =$
3. $\$376.42 - (\$60 \times 3) + \$36.94 =$
4. $\$79.36 + (\$15.27 \times 4) - \$98.02 =$
5. $(\$324.60 \times 7) - \$1200.45 + \$160 =$

II. WRITTEN WORK

Add:

1.	2.	3.	4.
$396.42	$5380.72	$93846.32	$89061.59
426.81	6413.22	79603.25	32691.72
743.92	3847.06	43216.13	53706.09
63.74	1630.29	76384.79	27619.84
41.35	3846.72	86.09	38906.01
184.16	633.36	2145.21	29064.91
791.32	29.24	7654.32	72647.28
536.18	372.63	4.89	39847.27
365.81	4381.18	39.36	56372.94
426.16	7363.65	184.37	58321.39
$	$	$	$

III. WRITTEN WORK

Multiply:

	a.	*b.*	*c.*
1.	742×600	197×7000	$\$2.29 \times 80000$
2.	389×800	196×5000	$\$1.31 \times 70000$
3.	729×700	187×4000	$\$1.29 \times 90000$

I. WRITTEN WORK

Divide:

1.	2.	3.	4.	5.	6.
2)26	2)28	2)260	2)480	2)680	2)864
7.	**8.**	**9.**	**10.**	**11.**	**12.**
3)36	3)63	3)630	3)360	3)930	3)690
13.	**14.**	**15.**	**16.**	**17.**	**18.**
4)44	4)48	4)480	4)840	4)880	4)884
19.	**20.**	**21.**	**22.**	**23.**	**24.**
5)50	5)55	5)550	5)555	5)505	5)500

II. WRITTEN WORK

1.	2.	3.	4.	5.	6.
6)60	6)66	6)660	6)600	6)666	6)606
7.	**8.**	**9.**	**10.**	**11.**	**12.**
7)70	7)77	7)700	7)770	7)777	7)707
13.	**14.**	**15.**	**16.**	**17.**	**18.**
8)80	8)88	8)800	8)880	8)888	8)808
19.	**20.**	**21.**	**22.**	**23.**	**24.**
9)90	9)99	9)900	9)990	9)999	9)909

I. WRITTEN WORK

Divide:

1.	2.	3.	4.	5.	6.
2)126	2)148	2)182	2)408	2)168	3)156
7.	**8.**	**9.**	**10.**	**11.**	**12.**
3)213	3)246	3)183	3)276	4)204	4)168
13.	**14.**	**15.**	**16.**	**17.**	**18.**
4)248	4)324	4)284	4)364	5)150	5)250
19.	**20.**	**21.**	**22.**	**23.**	**24.**
5)205	5)300	5)350	5)455	6)126	6)186

II. WRITTEN WORK

1.	2.	3.	4.	5.	6.
6)240	6)300	6)360	6)426	6)546	7)147
7.	**8.**	**9.**	**10.**	**11.**	**12.**
7)217	7)427	7)357	8)168	8)248	8)400
13.	**14.**	**15.**	**16.**	**17.**	**18.**
9)180	9)279	9)630	9)819	9)918	9)927
19.	**20.**	**21.**	**22.**	**23.**	**24.**
8)816	7)721	6)624	5)535	4)424	3)315

I. WRITTEN WORK

Divide:

1.	2.	3.	4.
7)742	7)756	7)749	6)642
5.	**6.**	**7.**	**8.**
6)654	6)636	8)$8.80	8)$8.64
9.	**10.**	**11.**	**12.**
7)$14.21	8)$24.32	6)$126.30	5)$155.50
13.	**14.**	**15.**	**16.**
5)$25.00	5)$25.25	5)$40.40	5)$35.50
17.	**18.**	**19.**	**20.**
9)$18.18	9)$54.90	9)$63.27	9)$81.99
21.	**22.**	**23.**	**24.**
9)$72.45	4)$24.20	4)$32.40	4)$40.16

II. ORAL WORK

	a.	*b.*	*c.*
1.	1800 ÷ 2 =	16000 ÷ 2 =	24000 ÷ 8 =
2.	1800 ÷ 3 =	16000 ÷ 4 =	24000 ÷ 12 =
3.	1800 ÷ 6 =	16000 ÷ 8 =	24000 ÷ 24 =
4.	1800 ÷ 9 =	16000 ÷ 16 =	26000 ÷ 2 =
5.	2100 ÷ 3 =	24000 ÷ 2 =	48000 ÷ 4 =
6.	2100 ÷ 7 =	24000 ÷ 3 =	48000 ÷ 6 =
7.	2200 ÷ 2 =	24000 ÷ 4 =	48000 ÷ 8 =
8.	2200 ÷ 11 =	24000 ÷ 6 =	48000 ÷ 12 =

I. ORAL WORK

	a.	*b.*	*c.*
1.	$123 \div 3 =$	$640 \div 2 =$	$\$5.40 \div 9 =$
2.	$148 \div 2 =$	$550 \div 5 =$	$\$6.40 \div 8 =$
3.	$164 \div 4 =$	$360 \div 6 =$	$\$4.90 \div 7 =$
4.	$330 \div 3 =$	$729 \div 9 =$	$\$5.67 \div 7 =$
5.	$480 \div 4 =$	$819 \div 9 =$	$\$4.20 \div 7 =$

	d.	*e.*	*f.*
1.	$\frac{1}{3}$ of $\$3.60 =$	$\frac{1}{5}$ of $\$5.50 =$	$\frac{1}{7}$ of $14.70 =$
2.	$\frac{1}{3}$ of $\$9.30 =$	$\frac{1}{5}$ of $\$10.40 =$	$\frac{1}{7}$ of $42.56 =$
3.	$\frac{1}{3}$ of $\$15.60 =$	$\frac{1}{5}$ of $\$45.40 =$	$\frac{1}{8}$ of $24.80 =$
4.	$\frac{1}{4}$ of $\$8.80 =$	$\frac{1}{6}$ of $\$30.60 =$	$\frac{1}{8}$ of $48.40 =$
5.	$\frac{1}{4}$ of $\$36.36 =$	$\frac{1}{6}$ of $\$48.36 =$	$\frac{1}{9}$ of $36.90 =$

II. ORAL WORK

1. If 4 chairs cost $\$16.40$, what is the cost of one?

2. If 6 shawls cost $\$30.60$, what is the cost of one?

3. If 9 pairs of shoes cost $\$36.90$, what is the cost of 1 pair?

4. If 4 horses cost $\$480$, what is the cost of one?

5. If 3 tons of coal cost $\$15.60$, what is the cost of 1 ton?

6. If 7 wagons cost $\$567$, what is the cost of one?

7. If 7 dozen chairs cost $\$490$, what is the cost of 1 dozen?

I. WRITTEN WORK

	a.	*b.*
1.	$36+42+96=$	$(28\times29)+1876=$
2.	$79+38-24=$	$(\$18\times47)-\$30.75=$
3.	$64\times\ 9-56=$	$(\$12.40+\$9.30)\times2=$
4.	$98-79+87=$	$497\div7,\ +206=$
5.	$84\times\ 7\times\ 6=$	$(126\div6)\times89=$

II. WRITTEN WORK

1. At \$6 a barrel, how many barrels of flour can be bought for \$2400?

2. A man earns \$1200 a year. His expenses average \$2.50 a day. How much can he save in a year, or 365 days?

3. Sound moves through the air about 1143 ft. in a second. How far will it move in a minute?

4. A man traveled on a train 567 miles in 7 days. What was the average distance traveled each day?

5. If \$126.60 is the sum paid for 6 loads of hay, how much must be paid for 1 load? How much must be paid for 8 loads?

6. A boy bought 12 penholders at 5¢ apiece, and exchanged them for slate pencils at 2¢ each. How many pencils did he get?

WRITTEN WORK

Divide 658 by 2.

OPERATION I

$658 = 600 + 50 + 8$
$600 \div 2 = 300$, 1st partial quotient
$50 \div 2 = 25$, 2d partial quotient
$8 \div 2 = 4$, 3d partial quotient
$658 \div 2 = 329$, entire quotient

In practice the numbers are usually arranged and the division performed as shown in the following operation.

The divisor 2 is contained in 6 hundreds 3 hundreds times; in 5 tens, 2 tens times, and 1 ten remainder. We add the 1 ten to 8 units, thus making 18 units. Dividing 18 units by 2, we get 9 units. Hence the quotient is 3 hundreds, 2 tens, and 9 units, or, more briefly, 329.

OPERATION II

$2)\overline{658}$
329, *Ans.*

	a.	*b.*	*c.*	*d.*
1.	$458 \div 2 =$	$678 \div 3 =$	$567 \div 3 =$	$785 \div 5 =$
2.	$346 \div 2 =$	$792 \div 3 =$	$692 \div 4 =$	$790 \div 5 =$
3.	$396 \div 3 =$	$978 \div 3 =$	$815 \div 5 =$	$876 \div 6 =$
4.	$537 \div 3 =$	$516 \div 4 =$	$895 \div 5 =$	$942 \div 6 =$

5. At $5 a ton, how many tons of coal can you get for $890?

I. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	6)750	7)$8.40	9756 ÷ 4	$954.66 ÷ 7
2.	6)876	7)$9.80	$6920 ÷ 4	$724.30 ÷ 5
3.	4)$960	8)$8.96	$7565 ÷ 5	$936.96 ÷ 8
4.	5)$840	6)$8.46	$7512 ÷ 6	$754.62 ÷ 6

II. WRITTEN WORK

Divide 31260 by 4.

Since the divisor 4 is not contained in 3 ten-thousands any ten-thousands times, we find how many times it is contained in all the thousands; 3 ten-thousands plus 1 thousand equal 31 thousands; 4 is contained in 31 thousands 7 thousands times, and 3 thousands remainder. We write the 3 thousands with the 2 hundreds, and continue the division as in operation II, Lesson 75.

OPERATION

4)31260

7815, *Ans.*

	a.	*b.*	*c.*
1.	6)21078	8)$1247	4)$29.37
2.	5)34075	$155, $7 Rem.	5)$36.84
3.	7)3594	9)$2843	9)$39.21
	513, 3 Rem.	7)$1354	

I. WRITTEN WORK

	a.	*b.*	*c.*	*d.*
1.	7)$14.28	5)$16.20	3)$.39	5)$12.05
2.	6)$18.06	4)$ 9.40	4)$.72	6)$18.06
3.	5)$10.40	7)$29.33	9)$.81	7)$21.21
4.	8)$24.80	6)$48.48	5)$.45	8)$24.16

II. WRITTEN WORK

	a.	*b.*
1.	289296 ft. ÷ 3 = — ft.	321910 bu. ÷ 5 = — bu.
2.	211456 rd. ÷ 4 = — rd.	386292 pk. ÷ 6 = — pk.
3.	239115 ¢ ÷ 5 = — ¢	450674 qt. ÷ 7 = — qt.

III. WRITTEN WORK

1. How many times does $378 contain $7?

$7)$378

times

2. How many times does $.60 contain $.05?

$.05)$.60

times

	a.	*b.*	*c.*
1.	$5)$360	$7)$294	$.40)$.80
2.	$6)$450	$5)$475	$.30)$.90
3.	$4)$816	$6)$570	$.09)$.18

WRITTEN WORK

To divide dollars by cents.

Dollars may be changed to cents by omitting the dollar sign ($), adding two ciphers, and writing the word *cents* at the right.

Thus, $625 = 62500 cents.

At $.07 a pound, how many pounds of sugar can be bought for $35?

$35 = 3500 cents
$.07 = 7 cents

OPERATION

7 cents)3500 cents
500, *Ans.*

If 1 pound costs 7 cents, for 3500 cents there can be bought as many pounds as 7 cents are contained times in 3500 cents, or 500.

1. At $.07 a pound, how many pounds of rice can you get for $84? for $630?

2. At $.09 a pound, how many pounds of pork can be bought for $54? for $72? for $90?

3. At $.04 a pint, how many pints of milk can be bought for $8? for $24?

4. At $.05 a quart, how many quarts of beans can be bought for $70?

5. At $.08 apiece, how many melons can be bought for $56.

WRITTEN WORK

To divide dollars and cents by cents.

Dollars and cents may be changed to cents by omitting the dollar sign ($), and the decimal point (.).

Thus, $437.26 = 43,726 cents.

At $.09 a quart, how many quarts of beans may be bought for $120.78?

$120.78 = 12,078 cents
$ .09 = 9 cents

OPERATION

9 cents)12078 cents
1342, *Ans.*

If 1 quart costs 9 cents, for 12,078 cents there can be bought as many quarts as 9 cents are contained times in 12,078 cents, or 1342.

1. How many five-cent pieces are equal to $89.65?

2. How many dollars are equal to 3564 quarter-dollars?

3. How many yards are there in 5280 ft.? in 10560 ft.?

Divide:

4. $2498 by $.04.
5. $4321 by $.05.
6. $4584 by $.06.
7. $5943 by $.07.
8. $4768 by $.08.
9. $2564.96 by $.04.
10. $3606.95 by $.05.
11. $3228.84 by $.06.
12. $6567.12 by $.07.
13. $6277.04 by $.08.

WRITTEN WORK

1. A father, dying, left $5943 to be divided equally among his 7 sons. Find each son's share.

2. If 6 horses cost $811.50, how much will 18 horses cost at the same rate?

3. How many yards of muslin at $.08 a yard can be bought for $268? for $26.16?

4. How many bushels of lime at $.12 a bushel can be bought for $2965.32?

5. If a man receives $.05 a bushel for selling potatoes, how many bushels must he sell to make $236.90?

6. How many barrels of apples at $4 a barrel can be bought for 17 barrels of mackerel at $12 a barrel?

7. An express train ran 522 miles in 9 hours. At the same rate, how far would it run in 27 hours?

8. How many quarts are there in 9638 pints? How many gallons equal 968 quarts? How many yards equal 10,560 ft.?

9. How many pounds of sugar at 6 cents a pound can be bought for 27 dozen eggs at 18 cents a dozen?

10. John traveled 1472 miles by train, which was 4 times the distance he traveled on his bicycle. How far did he travel?

ORAL WORK

1. At $.10 a bunch, how many bunches of celery can be bought for $.80? for $1.00? for $1.40?

2. At $.04 a quart, how many quarts of coal oil can be bought for $.48? for $.84? for $.88?

3. How many barrels of apples at $1.50 a barrel will $3.00 buy?

4. What is $\frac{1}{11}$ of $99? $99 ÷ 11 = ?

5. $99 contain $9 how many times? $99 ÷ $9 = ?

6. What is $\frac{1}{8}$ of $72? $72 ÷ 8 = ?

7. $72 contain $8 how many times? $72 ÷ $8 = ?

8. What is $\frac{1}{9}$ of $63? $63 ÷ 9 = ?

9. $63 contain $9 how many times? $63 ÷ $9 = ?

10. What is $\frac{1}{9}$ of 108 lb.? 108 lb. ÷ 9 = ?

11. 108 lb. contain 9 lb. how many times? 108 lb. ÷ 9 lb. = ?

12. What is $\frac{1}{11}$ of 110¢? 110¢ ÷ 11 = ?

13. 110¢ contain 11¢ how many times? 110¢ ÷ 11¢ = ?

14. What is $\frac{1}{12}$ of 132 yd.? 132 yd. ÷ 12 = ?

15. 132 yd. contain 12 yd. how many times? 132 yd. ÷ 12 yd. = ?

16. What is $\frac{1}{11}$ of 121 bu.? 121 bu. ÷ 11 = ?

17. 121 bu. contain 11 bu. how many times? 121 bu. ÷ 11 bu. = ?

I. ORAL WORK

	a.	*b.*
1.	$\frac{1}{4}$ of 240 cows =	$\frac{1}{9}$ of 810¢ =
2.	$\frac{1}{6}$ of 360 horses =	$\frac{1}{9}$ of \$8.10 =
3.	$\frac{1}{8}$ of 320 yards =	$\frac{1}{7}$ of 490 apples =
4.	$\frac{1}{7}$ of 420 books =	$\frac{1}{5}$ of 600 gallons =
5.	$\frac{1}{3}$ of 270 hens =	$\frac{1}{11}$ of 550 inches =

II. ORAL WORK

Name the quotients and remainders:

$48 \div 9 = ?$

MODEL. — 48 divided by 9 equals 5, and 3 remainder.

	a.	*b.*	*c.*	*d.*
1.	$31 \div 6 =$	$29 \div 4 =$	$63 \div 5 =$	$34 \div 11 =$
2.	$39 \div 5 =$	$46 \div 4 =$	$27 \div 6 =$	$64 \div 5 =$
3.	$76 \div 9 =$	$49 \div 5 =$	$57 \div 7 =$	$53 \div 8 =$
4.	$65 \div 8 =$	$75 \div 7 =$	$51 \div 8 =$	$67 \div 9 =$
5.	$73 \div 7 =$	$58 \div 9 =$	$59 \div 12 =$	$37 \div 5 =$

III. ORAL WORK

$(19 + 6) \div 5 = ?$

MODEL. — 25 divided by 5 equals 5.

	a.	*b.*	*c.*
1.	$(18 + 3) \div 7 =$	$(26 - 6) \div 5 =$	$(81 \div 9) \times 3 =$
2.	$(19 + 5) \div 8 =$	$(35 - 3) \div 8 =$	$(37 + 27) \div 8 =$
3.	$(4 \times 9) \div 3 =$	$(4 \times 12) \div 6 =$	$(14 \times 3) \div 7 =$
4.	$(8 \times 6) \div 4 =$	$(99 - 11) \div 8 =$	$(56 - 6) \div 5 =$

WRITTEN WORK

Divide 5645 by 27.

OPERATION

Divisor Dividend Quotient

$$27)5645(209\tfrac{2}{27}$$

$$\begin{array}{r} 54 \\ \hline 245 \\ 243 \\ \hline 2, \text{ Rem.} \end{array}$$

The divisor, 27, is not contained any thousand times in 5 thousands; hence the quotient will contain no thousands. 5 thousands equal 50 hundreds, which, added to 6 hundreds, equal 56 hundreds. 27 is contained in 56 hundreds 2 hundreds times. Writing the 2 hundreds as the first figure of the quotient, and taking the product of the first quotient figure and the divisor, we have 54 hundreds, which, subtracted from 56 hundreds, leave a remainder of 2 hundreds. The remainder, 2 hundreds, equal 20 tens, which, united with the 4 tens, make 24 tens. 27 is not contained any ten times in 24 tens, hence a cipher is written in the quotient in tens' place, and the 24 tens are reduced to units and united with the 5 units, thus making 245 units. 27 is contained in 245 units 9 units times. Writing the 9 units in the quotient, and taking the product of the third quotient figure, 9, and the divisor, 27, we have 243 units, which, subtracted from 245 units, leave a remainder of 2 units. Therefore the quotient of 5645 divided by 27 is 209, with a remainder of 2, or $209\frac{2}{27}$.

Divide 2142 by 14; by 17; by 19; by 21.

I. WRITTEN WORK

1.	2.	3.
23)3358(146	24)3538($147\frac{10}{24}$	29)6983($240\frac{23}{29}$
23	24	58
105	113	118
92	96	116
138	178	23, Rem.
138	168	
	10, Rem.	

Divide:

	a.	*b.*	*c.*
1.	1728 by 12	3528 by 24	2747 by 41
2.	4202 by 11	1640 by 15	4686 by 22
3.	2232 by 12	5974 by 29	2825 by 25
4.	1386 by 21	5232 by 32	12,643 by 64
5.	3358 by 23	1448 by 31	36,847 by 68

II. WRITTEN WORK

Find the quotients of the following:

	a.	*b.*	*c.*
1.	347,560 ÷ 17	893,684 ÷ 64	890,643 ÷ 87
2.	463,091 ÷ 19	890,016 ÷ 67	763,894 ÷ 89
3.	538,016 ÷ 21	761,011 ÷ 73	630,804 ÷ 94
4.	630,012 ÷ 46	864,321 ÷ 79	963,821 ÷ 96
5.	716,014 ÷ 59	640,312 ÷ 84	998,420 ÷ 98
6.	83,286 ÷ 57	723,714 ÷ 86	996,537 ÷ 95

WRITTEN WORK

1. A butcher paid $1424 for 16 head of cattle. How much was that apiece?

2. If a man travels 23 miles a day, how long will it take him to travel 667 miles?

3. There are 16 ounces in 1 pound. How many pounds are there in 3776 ounces?

4. If 27 barrels of oil cost $2511, find the cost of 1 barrel; of 23 barrels.

5. If a bushel of corn weighs 56 lb., how many bushels are there in a load of corn weighing 4144 lb.?

6. If a man can save $63 a month, how many months will it take him to save $1512?

7. At $12 each, how many coats can be bought for $2244?

8. How many days are there in 4752 hours? in 8208 hr.?

9. At $47 each, how many buggies can be bought for $1692?

10. If a bushel of potatoes weighs 60 lb., how many bushels are there in a load weighing 3240 lb.?

11. If 32 chairs cost $112, how much is 1 chair worth?

12. $6336 ÷ 48 = ? $6336 ÷ $48 = ?

ORAL WORK

1. At $.05 each, how many spools of thread can you buy for $.60? $.05)$.60.

2. $.60 ÷ $.10 = ? $.39 ÷ $.13 = ? $1.20 ÷ $.20 = ? $1.25 ÷ $.25 = ?

3. At $.13 a quart, how many quarts of onions can be bought for $.39?

4. At $.20 a dozen, how many dozen oranges can be bought for $1.20?

5. At $.25 a peck, how many pecks of tomatoes will $1.25 buy?

6. At $.05 apiece, how many penholders will $1.25 buy? $1.50? $2.50?

7. At $.09 a gallon, how many gallons of coal oil will $1.08 buy?

8. At 11¢ a dozen, how many dozen candles can be bought for $1.21?

9. How many bushels of wheat can be bought for $2.70, at $.90 a bushel?

10. At $.14 a pound, how many pounds of sausage can you buy for $.84?

11. There are 768 trees in an orchard, in 24 equal rows. How many trees are there in each row?

12. $.91 ÷ 13 = ? $.91 ÷ $.13 = ?

I. WRITTEN WORK

	a.	*b.*
1.	$2.21 ÷ $.17 =	$5.98 ÷ $.26 =
2.	$2.34 ÷ $.13 =	$3.77 ÷ $.29 =
3.	$3.12 ÷ $.24 =	$5.98 ÷ $.46 =
4.	$3.04 ÷ $.19 =	$10.73 ÷ $.37 =
5.	$4.14 ÷ $.23 =	$15.12 ÷ $.42 =

II. WRITTEN WORK

1. At $.23 a dozen, how many dozen eggs can be bought for $5.52? for $7.36?

2. If 1 bu. of oats costs $.37, how many bushels can I buy for $9.25? for $12.58?

3. At $.29 a gallon, how many gallons of molasses will $7.54 buy? $11.31?

4. How many pecks of beans will $12.16 buy at $.19 a peck?

5. At $.13 a dozen, how many dozen bananas can you buy for $3.12?

6. At $.13 apiece, how many dippers can I buy for $4.42?

7. How many pocket knives worth $.46 each can be bought for $11.96?

I. WRITTEN WORK

Divide:

	a.	*b.*
1.	\$2498 by \$.04	\$2564.96 by \$.04
2.	\$4321 by \$.05	\$3606.95 by \$.05
3.	\$4584 by \$.06	\$3228.84 by \$.06
4.	\$5943 by \$.07	\$6567.12 by \$.07
5.	\$4768 by \$.08	\$6277.04 by \$.08

II. WRITTEN WORK

Divide:

	a.	*b.*
1.	\$191,308 by \$.26	\$4543.38 by \$.86
2.	\$227,772 by \$.27	\$4773.86 by \$.91
3.	\$497,718 by \$.78	\$6021.75 by \$.93
4.	\$530,010 by \$.65	\$6021.75 by 93
5.	\$700,928 by \$.74	\$2123.42 by 26

III. WRITTEN WORK

1. At \$.06 a quart, how many quarts of milk can be bought for \$144?

2. At \$.09 a gallon, how many gallons of cider can be bought for \$207?

3. How many yards of muslin at \$.08 a yard can be bought for \$120?

4. How many pounds of coffee at \$.28 a pound can you buy for \$700?

I. WRITTEN WORK

	a.	*b.*
1.	Divide $349.96 by 26	Divide $720.48 by 57
2.	Divide $500.48 by 34	Divide $622.08 by 64
3.	Divide $578.31 by 37	Divide $539.47 by 73
4.	Divide $752.56 by 46	Divide $693.84 by 84
5.	Divide $731.93 by 53	Divide $812.82 by 93

II. WRITTEN WORK

1. At $.35 a bushel, how many bushels of oats can be bought for $7140?

2. How many pounds of tobacco, at $.75 a pound, can be bought for $600?

3. A miller invested $9010 in wheat at $.85 a bushel. How many bushels did he get?

4. At $.68 a pair, how many pairs of overshoes can you buy for $816?

5. When corn is selling at $.70 a bushel, how many bushels can be bought for $35,140?

6. A merchant invested $123 in potatoes at $.60 a bushel. How many bushels did he get?

7. At $.18 each, how many watermelons can be bought for $62.10?

ORAL WORK

1. I bought sugar for $.42, and gave the clerk a half-dollar. How much change should I receive?

2. I bought goods for $4.49, and gave the clerk $5. What was my change?

3. Subtract $4.36 from $5. Subtract $8.90 from $10.

4. How many more cents is $\frac{4}{5}$ of a dollar than $\frac{3}{4}$ of a dollar?

5. I bought 2 lb. of honey at 15¢ a pound, and 6 bars of soap at 5¢ a bar. I gave the clerk a fifty-cent piece, and a twenty-five cent piece. What was my change?

6. A man bought goods to the amount of $3.45, and gave as part payment 4 lb. of butter at 30¢ a pound. How much does he still owe?

7. A carpenter paid $.84 for nails at $.04 a pound. How many pounds did he buy?

8. How many boxes, holding 8 ounces each, will be needed to hold 10 pounds of candy?

9. How much will $1\frac{1}{2}$ lb. of butter cost at $.24 a pound?

10. I bought 4 melons at 5¢ each, a bunch of celery for 18¢, and a head of cabbage for 10¢. I paid with a dollar bill. What was my change?

WRITTEN WORK

1. If 45 pounds of tea cost $38.25, find the cost of 1 lb.

2. A merchant paid $21 for cheese at $.12 a pound. How many pounds did he get?

3. How many baskets of peaches at $.75 a basket can be bought for $93.75?

4. A laborer received $135 for 54 days' labor. How much was that a day?

5. A man paid $2998.80 for 72 head of cattle. What was the cost per head?

6. When 55 tons of coal cost $288.75, what is the price per ton?

7. If 8 loads of sand cost $10, how much will 1 load cost? 16 loads?

8. At $.45 each, how many books can be bought for $5.40?

9. After paying for a suit of clothes worth $37, I have left just $13. How much money had I at first?

10. Find the cost of 12 lb. of coffee at 35¢ per lb., and 14 lb. of butter at 22¢ per pound.

11. At 56¢ a bushel, how many bushels of wheat can be bought for $132.72?

I. WRITTEN WORK

Find the cost of:

1. 36 yd. of silk at $ 2.75 per yard.
2. 3 doz. pairs of hose at $ .38 per pair.
3. 5 doz. collars at 13¢ apiece.
4. 37 yd. of cloth at $ 1.92 per yard.
5. 116 gal. of oil at $ .18 per gallon.
6. 36 baskets of tomatoes at $ .40 a basket.

II. WRITTEN WORK

Find the cost of 1 if:

1. 13 hats cost $ 11.70.
2. 21 yards cost $ 54.60.
3. 36 bushels cost $ 31.32.
4. 96 pounds cost $ 15.36.
5. 36 books cost $ 28.80.
6. 18 pictures cost $ 21.60.
7. 45 buckets cost $ 12.60.

8. How many pounds of meat at $ .13 can be bought for $ 7.02?

9. How many pairs of skates at $ 1.25 can be bought for $ 20?

10. How many cans of milk at $ .18 can be bought for $ 6.48?

11. How many pairs of gloves at $ 1.29 can be bought for $ 10.32?

ORAL WORK

60 sec.	= 1 min.	365 da.	= 1 yr.
60 min.	= 1 hr.	52 wk.	= 1 yr.
24 hr.	= 1 da.	12 mo.	= 1 yr.
7 da.	= 1 wk.	100 yr.	= 1 century

1. A.M. means before noon; M. means noon, and P.M. means after noon.

2. Look at the picture of the clock and tell me what time it is.

3. What is the name of the hand that points to XII?

4. What is the name of the one that points to IX?

5. How long does it take the minute hand to make one revolution? How many minutes does it take?

6. How long does it take the hour hand to make one revolution? How many hours does it take?

7. What part of a revolution does the hour hand make while the minute hand makes one revolution?

ORAL WORK

1. How many revolutions does the minute hand make while the hour hand makes one?

2. How many revolutions does the hour hand make in a day? How many does the minute hand make?

3. To what number on the dial will the minute hand point at half-past 9 o'clock? at quarter-past 10 o clock? at twenty-five minutes past 11 o'clock?

4. How many hours are there between 10 A.M. and 3 P.M.?

5. How many hours are there between 7 A.M. and 6 P.M.?

6. How many hours and minutes are there between 9.15 A.M. and 11 A.M.? between 8.30 A.M. and 4.10 P.M.?

7. If a boy goes to bed at half-past 8 P.M. and gets up at 7 A.M., how many hours and minutes is he in bed?

8. How many hours and minutes are there between 4.30 A.M. and 12 M.? between 10.05 A.M. and 12 midnight?

9. Name the months that have 30 days; 31 days.

10. How many days has February?

11. Name the spring months; the summer months; the fall months; the winter months.

WRITTEN WORK

1. How many seconds are there in 5 min.? in 20 min.? in 60 min.?

2. How many minutes are there in 10 hr.? in 15 hr.?

3. How many hours are there in January? in April? in June?

4. How many days are there in the summer months?

5. How many days less are there in the first six months of the year than in the last six months?

6. How many years are there between 1886 and 1896? how many months?

7. How many centuries are there between 1300 and 1900?

8. How many centuries and years are there between 1365 and 1895?

9. How many minutes are there in 3600 sec.? how many hours in 960 min.?

10. How many hours and minutes are there in 3678 min.?

11. How many minutes are there in $12\frac{1}{2}$ hr.?

12. A man worked 8 hr. 20 min. on Monday, 8 hr. 40 min. on Tuesday, 7 hr. 50 min. on Wednesday, 9 hr. 10 min. on Thursday, 8 hr. 35 min. on Friday, and 7 hr. 25 min. on Saturday. How many hours did he work during the week?

ORAL WORK

16 ounces (oz.)	= 1 pound (lb.)
100 pounds	= 1 hundredweight (cwt.)
20 hundredweight	= 1 ton (T.)
2000 pounds	= 1 ton

1. How many ounces are there in 3 lb.? in $2\frac{1}{2}$ lb.?

2. How many pounds are there in 64 oz.?

3. How many pounds and ounces are there in 87 oz.? in 100 oz.?

4. How many hundredweight are there in 4 tons?

5. How many pounds are there in 3 tons? in $4\frac{1}{2}$ tons? in $\frac{1}{4}$ of a ton?

6. How many pounds are there in $1\frac{1}{2}$ tons? How many hundredweight are there in $\frac{1}{2}$ of a ton?

7. What part of a pound are 4 oz.? 8 oz.? 12 oz.?

8. Find the cost of $3\frac{1}{4}$ lb. of cheese at 12¢ a pound.

9. Find the cost of 4 lb. 4 oz. of butter at 24¢ a pound.

WRITTEN WORK

1. How many tons are there in 4000 lb.?

2. A load of hay weighed 2500 lb. How many tons did it weigh?

3. Find the cost of $1\frac{1}{4}$ tons of hay at $ 16 a ton.

4. Find the cost of 3000 lb. of hay at $ 12 a ton.

5. How many tons are there in 60 cwt.?

6. Find the cost of $3\frac{1}{2}$ tons of coal at 20¢ per hundredweight.

7. If I put 1 ton of baking powder in half-pound packages, how many packages will it make?

8. How many cwt. are there in 3600 lb.?

9. How much must I pay for 500 lb. of hay at $ 12.40 a ton?

10. Find the cost of 5 T. 4 cwt. of straw at $ 5 a T.

11. A merchant bought a lot of butter that weighed 14 lb. 7 oz., and another lot that weighed 7 lb. 9 oz. How many pounds were there in both lots?

ORAL WORK

4 gills (gi.) = 1 pint (pt.)
2 pints = 1 quart (qt.)
4 quarts = 1 gallon (gal.)

1. How many gills are there in 12 pt.? in 15 pt.?

2. How many pints are there in 8 qt.? in $10\frac{1}{2}$ qt.?

3. How many quarts are there in 8 gal.? in $12\frac{1}{2}$ gal.? in $20\frac{3}{4}$ gal.?

4. How many pints are there in a gallon? in $3\frac{1}{2}$ gal.? in 7 gal. 1 pt.?

5. How many pints are there in 84 gi.? in 88 gi.? How many quarts are there in 64 pt.? in 72 pt.? in 86 pt.?

6. 1 gill is what part of a qt.? what part of 2 qt.?

7. 1 pint is what part of a gal.? what part of 2 gal.?

8. What part of a gallon is 2 pt.? 3 pt.? 4 pt.?

9. 1 quart is what part of $\frac{1}{2}$ of a gallon? what part of 2 gal.?

WRITTEN WORK

1. A barrel holds $31\frac{1}{2}$ gal. A hogshead holds 2 barrels, or 63 gal.

2. How many gallons are there in 4 barrels? in 2 hogsheads?

3. How many quarts are there in a barrel? in a hogshead?

4. A milk dealer sells 15 cans of milk each day. If 10 of the cans hold 10 gallons each, and 5 hold 8 gallons each, how many gallons does he sell? how many quarts?

5. A man bought two five-gallon cans of maple sirup at 80¢ a gallon, and sold it at 22¢ a quart. How much did he gain?

6. From a barrel of vinegar there were drawn out at one time $5\frac{1}{2}$ gal., at another time 4 gal. 2 qt., at another time 30 qt. How many gallons were drawn out, and how many gallons remained?

7. How many gallons are there in 192 pt.? in 928 pt.?

8. If 1 quart of coal oil is worth \$.05, how much is a barrel containing 42 gal. worth?

9. How many quart bottles will a barrel of cider ($31\frac{1}{2}$ gal.) fill?

10. How much will 28 gallons of cream cost at 5¢ a half-pint?

ORAL WORK

2 pints (pt.) = 1 quart (qt.)
8 quarts = 1 peck (pk.)
4 pecks = 1 bushel (bu.)

1. How many pints are there in 10 qt.? in 25 qt.?

2. How many quarts are there in 64 pt.?

3. How many quarts are there in 9 pk.? in 20 pk.? in 50 pk.?

4. How many bushels are there in 36 pk.? in 48 pk.? in 360 pk.?

5. How many pecks are there in $4\frac{1}{2}$ bu.? in $9\frac{3}{4}$ bu.? in 11 bu. 3 pk.?

6. Find the cost of 5 bu. 3 pk. of apples at 60¢ a bushel.

7. What part of a bushel is 2 pk.? 3 pk.? How many quarts are there in 2 pk.? in $\frac{1}{2}$ of a bushel?

8. Find the cost of 1 bu. 3 pk. of beans at 40¢ a peck.

WRITTEN WORK

Add:

1.

bu.	pk.	qt.	pt.
8	2	1	1
3	1	5	0

2.

bu.	pk.	qt.	pt.
9	1	4	0
3	1	2	1

3. Find the sum of 5 bu. 2 pk. 4 qt. and 7 bu. 1 pk. 3 qt. and 1 pt.

4. A man picked 5 bu. 3 pk. 5 qt. and 1 pt. of cherries and sold 3 bu. 2 pk. 5 qt. and 1 pt. How many had he left?

5. How many bushels and pecks are there in 426 pk.? in 570 pk.?

6. How many pecks are there in $39\frac{3}{4}$ bu.? in 36 bu. 3 pk.?

7. Find the cost of $18\frac{3}{4}$ bu. of wheat at 80¢ a bushel.

8. Find the cost of 27 bu. 3 pk. of potatoes at 60¢ a bushel.

9. Find the cost of $17\frac{3}{4}$ bu. of peaches at 24¢ a peck.

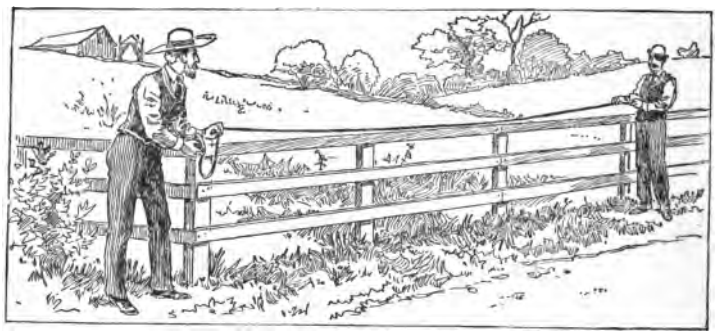
10. How many quart cans will $1\frac{1}{2}$ bu. of berries fill?

11. Find the cost of 50 pk. of onions at 40¢ a bushel.

12. If 2 bu. of corn cost $1.60, how much will 5 bu. 3 pk. cost?

13. I bought 15 bu. of potatoes at $.83 a bushel and sold them at 28¢ a peck. What was my gain?

ORAL WORK



12 inches (in.)	= 1 foot (ft.)
3 feet	= 1 yard (yd.)
$16\frac{1}{2}$ feet	= 1 rod (rd.)
$5\frac{1}{2}$ yards	= 1 rod
320 rods	= 1 mile (mi.)

1. How many inches are there in 5 ft.? in 8 ft.?

2. How many yards are there in 27 ft.? in 36 ft.? in 51 ft.?

3. How many feet are there in 2 rd.? in 2 yd.? in 4 yd.?

4. How many rods are there in 33 ft.? in 66 ft.? in 99 ft.?

5. What part of a yard is $1\frac{1}{2}$ ft.? What part of a mile is 1 rd.? 40 rd.? 80 rd.? 160 rd.?

6. How many inches are there in $7\frac{1}{2}$ ft.? in $12\frac{2}{3}$ ft.? in $9\frac{3}{4}$ ft.?

WRITTEN WORK

1. How many rods are there in 4 mi.? in $5\frac{1}{2}$ mi.? in $7\frac{3}{4}$ mi.?

2. How many yards are there in 345 ft.? in 723 ft.? in 825 ft.?

3. What must be paid for 3 yd. 2 ft. and 2 in. of wire at 1 cent an inch?

Add:

4.

mi.	rd.	yd.	ft.	in.
12	26	2	1	4
13	24	3	1	7

5.

mi.	rd.	yd.	ft.	in.
21	28	1	2	5
16	46	2	0	3

6. From 72 mi. 126 rd. 5 yd. 2 ft. 7 in. take 37 mi. 84 rd. 3 yd. 1 ft. 3 in.

7. A man raised 17 bu. 3 pk. 7 qt. of cranberries and sold all but 2 bu. and 2 pk. How many bu., pk., and qt. did he sell?

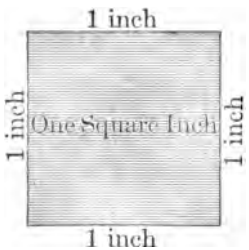
8. Find the sum of 5 mo. 16 da. 13 hr. 22 min. 31 sec. and 2 mo. 8 da. 9 hr. 21 min. 24 sec.

9. My schoolroom is 33 ft. long and 24 ft. wide. Find the distance around the room in feet; in yards.

10. How many inches are there in 3 yards? in 14 yards?

11. How many yards long is a hall that measures 4 rods?

ORAL AND WRITTEN WORK



1. A square each side of which is an inch long is a **Square Inch.**

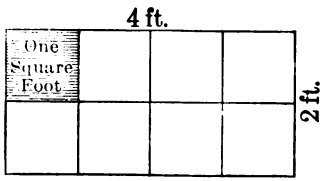
2. A square each side of which is 2 inches long is a **Two-inch Square.**

3. Draw a two-inch square, and divide it into square inches. How many square inches does it contain?

4. What is the distance around a square inch?

5. What is the distance around a two-inch square?

6. The drawing at the left is intended to show the number of square feet in the top of a table 4 ft. long and 2 ft. wide, each little square representing a square foot.



It will be seen that the whole number of little squares is equal to the number in each row multiplied by the number of rows. There are two rows of 4 square feet each, or 2 times 4 square feet, or 8 square feet, of surface in the top of the table.

7. Show by a drawing that a piece of board 5 in. long and 4 in. wide contains 20 square inches.

ORAL AND WRITTEN WORK

1. A square each side of which is 3 feet, or 1 yard, in length is a **Square Yard.**

2. Show by a drawing that a square yard contains 9 square feet.

3. Show by a drawing that a 6-inch square contains 36 square inches.

4. What is the distance around a 6-inch square?

5. What is the distance around a rectangle 7 in. long and 5 in. wide?

6. A square that measures 12 inches, or 1 foot, on each side is a **Square Foot.**

7. Show by a drawing that a square foot contains 144 square inches.

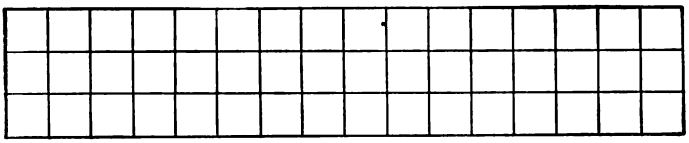
8. A square that measures $16\frac{1}{2}$ feet, or 1 rod, on each side is a **Square Rod.**

144 square (sq.) inches = 1 sq. ft.
9 square feet = 1 sq. yd.
160 square rods = 1 acre (A.).

9. How many square inches are there in a page of this book?

10. Show by drawings that a piece of board 6 inches square contains 1 square inch more than a piece of board 7 inches long and 5 inches wide.

WRITTEN WORK



1. In the diagram above, each little square represents a square inch. Count them and see how many square inches there are in a board like this which is 16 in. long and 3 in. wide. There are 16 sq. in. in each row. 3 times 16 sq. in. = — sq. in.

2. How many square inches are there in a piece of paper 12 in. long and 4 in. wide? Show by a drawing.

3. Find the number of square inches in the top of your desk.

4. How many square inches of felt will it take to cover a child's desk 18 in. long and 12 in. wide?

5. How many square inches of felt would it take to cover the tops of all the desks in your schoolroom?

6. My front door is 7 ft. high and 3 ft. wide. How many square feet does it contain?

7. How many more square inches are there in a piece of board 8 in. square than in a piece 9 in. long and 7 in. wide?

8. How many square inches are there in a board that is 2 ft. long and 1 ft. wide?

WRITTEN WORK

1. How many square feet of surface are there in a blackboard 23 ft. long and 4 ft. wide?

2. How much will it cost to paint a blackboard 35 ft. long and 5 ft. wide at 1¢ a sq. ft.?

3. There are three windows in a schoolroom. Each window contains 6 panes of glass. Each pane is 12 in. by 21 in. How many square inches are there in all the panes in the schoolroom?

4. How many square inches are there in a pane of one of your schoolroom windows? how many sq. in. in all?

5. How many sq. yd. of carpet will it take to cover the floor of a room 18 ft. long and 15 ft. wide?

6. How many sq. in. can be cut from a square piece of paper that measures 2 in. on each side? Show this by a drawing.

7. Which is larger, a piece of paper that contains 3 sq. in., or a piece that is 3 inches square?

8. Which is greater, a square inch or an inch square?

9. Show by a drawing that 2 square inches and 2 inches square are different.

10. How many square yards of carpet will it take to cover two floors, one of which is 12 ft. long and 9 ft. wide and the other 15 ft. long and 12 ft. wide?

REVIEW WORK

1. How many square feet are there in 12 sq. yd.? in $9\frac{2}{3}$ sq. yd.?

2. Find the cost of 3 student lamps at $3.85 each.

3. How many stepladders at $1.31 each can be bought for $11.79?

4. What is the area of a 5-foot square? a 5-yard square?

5. How many tons of coal at $2.25 a ton can be exchanged for 60 bu. of potatoes at $.75 a bu.?

6. There are 196 lb. in a barrel of flour. How many pounds are there in 20 bbl.? in $\frac{1}{2}$ a barrel? in $\frac{1}{4}$ of a barrel?

7. How many pounds of sugar at $.06 a pound will pay for $16\frac{2}{3}$ dozen eggs at $1\frac{1}{2}$¢ apiece?

8. How much will 56 lb. and 8 oz. of butter cost at 22¢ a pound?

9. How many times will a wheel 12 ft. in circumference turn round in going 10 mi.? (5280 ft. = 1 mi.)

10. How many quarts of berries at 10¢ a quart will pay for 25 yd. of calico at 8¢ a yard?

11. If 3 melons cost 11 cents, how many melons can I get for 55 cents?

REVIEW WORK

1. How many square rods make one acre?

2. How many acres are there in a piece of land 16 rd. long and 10 rd. wide? How many are there in a piece 20 rd. long and 8 rd. wide?

3. Find the cost of 9 cwt. 25 lb. of beef at 8¢ per pound.

4. If there are 60 lb. in a bushel of wheat, how many bushels of wheat are there in 3000 lb.?

5. Find the cost of 3180 lb. of wheat at $.82 per bu.

6. A man sold 4500 lb. of hay at $16 a ton. How much did he receive for it?

7. From a piece of cloth containing $32\frac{1}{2}$ yd. there were sold at one time $8\frac{1}{2}$ yd., and at another time $7\frac{1}{2}$ yd. How many yards were left?

8. John picked 8 qt. of cherries in $\frac{1}{4}$ of an hour. At the same rate, how long would it take him to pick a bushel?

9. I bought 5 dozen oranges at the rate of 2 oranges for 3¢. How much did they cost me?

10. Mr. Smith feeds his horse 10 qt. of oats each day. How many days will 8 pk. and 6 qt. last him?

11. A train of cars runs 36 miles in 2 hr. How long will it take to run 180 miles?

REVIEW WORK

1. A man was born in May, 1816, and died in July, 1893. How old was he when he died?

2. If a train leaves a station at 10 A.M. and runs at the rate of 24 mi. an hour, and a second train leaves the same station at 10.30 A.M. and runs in the same direction at the rate of 30 mi. an hour, how far apart will they be at 12 M.?

3. How many boxes of tea, containing 24 lb. each, at 90¢ a pound, must be given in exchange for 54 firkins of butter of 56 lb. each, at 40¢ a pound?

4. How many inches are there in $2\frac{1}{2}$ yd.? in $3\frac{1}{4}$ yd.? in $4\frac{3}{4}$ yd.?

5. How much will 4500 lb. coal cost at \$4 a ton?

6. At \$.24 a gallon, $3\frac{2}{3}$ gallons of vinegar will cost how many cents?

7. If 4 bbl. of flour cost \$16, how much will $8\frac{1}{2}$ bbl. cost?

8. At $1\frac{1}{2}$¢ a sheet, how much will $1\frac{1}{2}$ quires of paper cost?

9. Find the cost of 2 bu. 3 pk. of corn at 60¢ a bushel.

10. Find the cost of 7 bu. 1 pk. of wheat at 80¢ a bu.

11. At $8\frac{1}{4}$¢ a yard, how much will 12 yd. of muslin cost?

REVIEW WORK

1. Find the cost of 12 coats at $15.75 each.

2. A farmer raised $82\frac{3}{4}$ bu. of wheat, and sold $28\frac{1}{4}$ bu. How many bushels had he left?

3. A barrel of sugar, including the barrel, weighs $275\frac{3}{4}$ lb. The barrel weighs $20\frac{3}{4}$ lb. What is the sugar worth at 5¢ per lb.?

4. I bought 2 lb. of butter at 22¢ a pound, 1 qt. of pears at 8¢, and 5 melons at 4¢ each. I gave the clerk a dollar bill. What was my change?

5. A barrel of flour weighs 196 lb. How many barrels will 4704 lb. make?

6. From a box containing 40 bu. 3 pk. of wheat, $29\frac{1}{2}$ bu. have been sold. How many bushels and pecks remain?

7. I bought 2 chickens, each weighing $3\frac{1}{2}$ lb., at 18¢ per pound. How much did they cost me?

8. If 3 eggs cost 5¢, how many doz. can you buy for $1.20?

9. At 13¢ a square foot, how much will it cost to lay a sidewalk 60 ft. long and 8 ft. wide?

10. A merchant bought 25 barrels of pork, 200 lb. each, at 9¢ a pound. How much did it cost him?

11. How many times will a clock that ticks seconds tick in $1\frac{1}{2}$ days?

REVIEW WORK

1. If a man buys 21 sheep for $78.75, and sells them at $4.15 each, how much does he gain?

2. A lady bought 7 yd. of ribbon at 28¢ per yard, but afterwards exchanged it for gingham at 14¢ per yard. How many yards did she get?

3. How many feet of fence will it take to inclose a piece of land 4 rd. wide and 8 rd. deep?

4. How many half-pound packages can be made from 20 lb. 8 oz. of soda?

5. At 65¢ a bu., how many bushels of wheat can be bought for $157.95?

6. From a piece of land containing 180 sq. rd., $\frac{1}{2}$ A. was sold. How many square rods were left?

7. If $\frac{1}{4}$ of a bu. of plums costs 50¢, what is the cost of 2 bu. 1 pk.?

8. What part of a peck is 1 qt.? 3 qt.? 7 qt.?

9. From a barrel of cider containing 36 gallons, there were sold 23 gal. 3 qt. Find the value of the remainder at 6¢ per quart.

10. How many bushels of corn at $.75 a bushel will cost $600?

11. Add five hundred thousand seven, seven thousand three hundred forty-five, and six hundred seventy-five.

REVIEW WORK

1. I bought vegetables for \$.38, sugar for \$.54, and some flour for \$2.25. I gave the clerk a two-dollar bill, a dollar bill, and a quarter of a dollar. What was my change?

2. If I pay 3¢ per pound for flour, how much is that per barrel?

3. A man has a piece of land 45 rd. long and 20 rd. wide, around which he wishes to build a fence. If he sets the posts 1 rod apart, how many posts will he need? Show by a drawing.

4. At \$300 a year, how much rent would a man pay from April 1, 1897 to Jan. 1, 1898?

5. How many baseballs at \$.25 each can be bought for \$7? for \$8.75?

6. At \$.75 a bushel, how many bushels of rye can be bought for \$48?

7. How many hats at \$1.25 each can be bought for \$60?

8. How many yards of cloth at \$1.25 per yard can be bought for \$70?

9. A man bought a piece of land for \$3127 and sold it at a loss of \$732. How much did he receive for it?

10. Add 3637, 4209, 3847, 8724.

REVIEW WORK

1. How much lace at 66¢ per yard can be bought for $132?

2. A man hires a horse for 30¢ an hour. How much must he pay if he uses it from 9 A.M. until 12 M., and from 1.30 P.M. until 4.50 P.M.?

3. If 8 hats cost $15.20, how much will 16 cost? 32 hats?

4. If $\frac{1}{4}$ of a pound of cloves is worth 10¢, how much must be paid for 2 lb. 12 oz.?

5. If a family use 2 lb. 8 oz. of sugar each day, how many pounds do they use in 2 days? How long would 40 lb. last?

6. At $3\frac{1}{2}$¢ per bar, how much will 4 bars of soap cost? How much will 1 doz. bars cost?

7. If I get 3 pieces of toilet soap for $.50, how many pieces can I get for $2?

8. I bought 3 kegs of nails, each keg weighing 100 lb., at $4\frac{1}{2}$¢ per lb. How much did I pay?

9. There are 20 quires in 1 ream. How much will 2 reams of paper cost at $1\frac{1}{2}$¢ a sheet?

10. A man sold a horse for $235 and lost $30. How much would he have received for it if he had gained $25?

11. Find the difference between $875 and $337.74.

REVIEW WORK

1. How many days will it take a man to dig a ditch 432 feet long if he can dig 48 feet per day?

2. How many barrels of flour at $4 a barrel will pay for 48 yd. of carpet at $2 a yard?

3. A farmer owns 120 acres of land. He has $\frac{1}{3}$ of it planted in corn, $\frac{1}{4}$ of the remainder is in wheat, 10 acres are used for pasture, what still remains is uncultivated. How many acres are uncultivated?

4. A young man bought 60 acres of land at $45 an acre, paid $860 for improvements and repairs, and sold it for $3870. How much did he gain?

5. Mr. Russell employs in his store 25 men at $2.25 a day, and 38 women at $1.90 a day. His other expenses are $85 a day. How much does it cost him to operate his store for 1 week?

6. The distance from New York to Boston is 249 miles. What would be the fare at $3\frac{1}{3}$¢ a mile?

7. Add $384.50, $3964.13, $729.42, $36.42.

8. From 32 gal. 3 qt. take 19 gal. 2 qt.

9. Multiply 6 million four thousand sixty-four by nine.

10. How much money must I add to $725 to make $924.36?

11. If 4 men each dig 24 bu. 1 pk. of potatoes, how many bushels will all dig?

REVIEW WORK

1. How many yards are there in 5280 ft.? in 6336 in.?

2. A man bought pears at the rate of 2 baskets for $1.25. How much would 6 baskets cost at the same rate? 12 baskets?

3. How many half-pint bottles are there in a 10-gallon keg of ink?

4. What would be the cost of 5 doz. oranges at the rate of 6 oranges for 10¢?

5. A man's daily expenses for one week were as follows: Monday, $1.60; Tuesday, $1.38; Wednesday, $2.14; Thursday, $.96; Friday, $1.25; Saturday, $3.10. If he earned $21.20, how much had he left?

6. Find the cost of a turkey weighing 9 lb. 7 oz., at 16¢ a pound.

7. How many hours are there from 6 o'clock Saturday afternoon to 7 o'clock Monday morning?

8. If a man begins work on Thursday morning, Aug. 8, and quits Saturday evening, Sept. 7, how much does he earn at $2.25 a day?

9. Divide 74693 by: 23; 46; 53; 72.

10. A man sold his farm for $2674, which was $396 more than it cost him. Find the cost.

REVIEW WORK

1. How many fence posts placed 8 ft. apart will be needed to fence a lot 160 ft. long and 120 ft. wide?

2. How many working days are there from Monday morning, Sept. 2, to Saturday evening, Oct. 12?

3. If 8 oz. of sugar cost $.03, how many pounds will $7.20 buy?

4. Find the cost of 11 oz. of butter at 32¢ a pound.

5. How many pints are there in a barrel containing $31\frac{1}{2}$ gal.?

6. A carpenter earns $18 a week, and his expenses are $7. How many weeks will it take him to save enough to buy a bicycle worth $110?

7. 10 gallons of ice cream were sold at $.15 a pint. How much money was received for it?

8. I lost $15 by selling a horse for $85. What was the value of the horse?

9. How much will a roast of $4\frac{1}{2}$ lb. of veal cost at 16¢ per pound?

10. How many square inches can you cut out of a piece of paper 8 in. by 12 in.?

11. How many square feet are in a piece of land 25 ft. wide and 125 ft. deep?

REVIEW WORK

1. George Washington was born Feb. 22, 1732. How old would he be if he were living Feb. 22, 1898?

2. How many square inches of paper will be needed to cover a box each side of which is 8 in.?

3. How much will it cost to plaster the ceiling of a room 8 yd. long and 6 yd. wide at $.25 a square yard?

4. At $.58 per square yard, how much will it cost to cement a cellar floor 14 yd. by 10 yd.?

5. How many 5-cent spools of thread can I buy for $2.05?

6. A man bought a ham weighing 11 lb. at 13¢ a pound and an 8-lb. pail of lard at $12\frac{1}{2}$¢ a pound, and gave a $2 bill and a $1 bill in payment. How much change should he receive?

7. At $.09 a quart, how many quarts of strawberries can be bought for $11.88?

8. If a boy sells papers for 2¢ apiece that cost him $1\frac{1}{2}$¢ apiece, how much will he gain on 100 papers?

9. After 12 yd. 2 ft. were sold from a piece of silk, there remained 7 yd. 1 ft. How many yards were in the piece at first?

10. If 9 bu. of potatoes cost $7.65, how much will 18 bu. cost?

REVIEW WORK

1. A milkman pays $.18 a gallon for his milk, and retails it for 8¢ per qt. How much is his gain on 1 gallon? How much does he gain on 25 gallons?

2. A wagon and load of hay weighed 3900 lb. The wagon weighed 1400 lb. What was the value of the hay at $12 a ton?

3. What are 9216 sheets of paper worth at 18¢ a quire?

4. 12 dozen = 1 gross, and 12 gross = 1 great gross. How many pens are there in a gross? in a great gross?

5. If it takes 6 buttons for 1 vest, how many vests will a gross of buttons trim?

6. How much will 18 eggs cost at 18¢ a dozen?

7. Find the cost of 2 gross of pens at the rate of 2 pens for 1 cent.

8. If it takes 36 buttons to trim 1 dress, how many dresses will a great gross of buttons trim?

9. Find the cost of 8 sheets of paper at 21¢ a quire.

SUGGESTION. — 8 sheets = what part of a quire?

10. A man gave his son $645.62, and his daughter $76.50 more. How much did he give to both?

REVIEW WORK

1. A man owed a debt of $216. He paid off $96 of the debt in 6 mo. At the same rate how long will it take him to pay off the balance?

2. If 1 bu. of wheat makes 48 lb. of flour, how many bu. will make 9408 lb.?

3. How many barrels (196 lb.) are there in 9408 lb.?

4. A grocer mixed 1 lb. of coffee worth 30¢ with 1 lb. worth 36¢. What was the value of 1 lb. of the mixture?

5. A grocer mixed 2 lb. of 30-cent coffee with 1 lb. of 36-cent coffee. What was the average value per pound?

6. Find the cost of 5 lb. 11 oz. of beefsteak at 16¢ per pound, and 3 lb. 4 oz. of pork at 8¢.

7. I bought 50 lb. of flour for $1.50. How much is that a hundredweight?

8. How many bottles, holding 2 gills each, can be filled from half a gallon of ink?

9. How much will 4 spoons cost at the rate of $11.52 a dozen?

10. A farmer raised 326 bu. of corn and sold 125 bu. at 36¢ a bushel, and the remainder at 46¢. How much did he receive for all?

REVIEW WORK

Find the cost of:

1. 120 bushels of wheat at 87¢ per bushel.

2. 300 bushels of oats at 35¢ per bushel.

3. 45 yards of carpet at $1.25 per yard.

4. 130 bbl. of cement at $1.75 per barrel.

5. 3500 lb. of straw at 50¢ per cwt.

6. 64 lb. of sugar at 4½¢ per pound.

7. 8½ lb. of ham at 14¢ per pound.

8. 3 pairs of shoes at $1.45 per pair.

9. I bought for dinner 4½ lb. of roast beef at 18¢ a lb., 1 bunch of asparagus at $.18, 2 qt. of sweet potatoes at $.04 per qt., 1 bunch of celery at $.12, and 1 doz. oranges at $.30. I paid with a 5-dollar bill. What was my change?

10. A barrel of pork at 8¢ a pound cost $16. What was the weight of the pork?

11. I paid $9.36 for collars at 13¢ apiece. How many dozen collars did I buy?

12. At ½¢ each, how many buttons can be bought for $2.88?

13. How many pounds of wool worth 28¢ a pound can be bought with 72 bu. of wheat worth 56¢ per bushel?

REVIEW WORK

1. A man purchased a rocking-chair for $\$14.50$, a half dozen dining-room chairs at $\$1.37\frac{1}{2}$ each, a table for $\$16.50$, and a sideboard for $\$37.50$. How much less than $\$100$ did they all cost?

2. A farmer sold 27 bu. of wheat at $\$.87\frac{1}{2}$ a bushel. How much did he receive for it?

3. A miller paid $\$40.32$ for 72 bushels of corn. How much was that a bushel?

4. How many bushels of oats will be required to feed 8 horses a week if each horse eats 3 pk. a day?

5. John has 50 yd. of kite string, which is $\frac{1}{3}$ of what his brother has. How many feet of string have they together?

6. A boy paid $\$36.50$ for a suit of clothes, which was 2 times what he paid for an overcoat. How much did he pay for both?

7. A farmer has 8 cows, each of which gives 10 quarts of milk daily. If he sells his milk at $8\not{c}$ a quart, how much will he receive for it in 4 weeks?

8. A girl sold 8 qt. 1 pt. of huckleberries at $10\not{c}$ a quart. How much did she receive for them?

9. At $\$1\frac{1}{4}$ a basket, how much will 30 baskets of peaches cost?

REVIEW WORK

1. How much sugar at 6¢ a pound can be bought for 12 bushels of potatoes at 42¢ a bushel?

2. At $4.25 a barrel, how many barrels of flour can be bought for $212.50?

3. If a man can walk 104 miles in 4 days, how long will it take him to walk 1248 miles?

4. A man spends $240 of his salary for rent, $175 for food and clothing, $85 for other expenses, and has $500 left. Find his yearly salary.

5. A man sold his farm for $8650, which was $720 less than he paid for it. How much would he have received for it if he had sold it for $725 more than he paid for it?

6. If I buy peanuts at $1.75 a bushel and sell them at 5¢ a pint, how much do I gain on 2 bushels?

7. If it takes 28 pickets to build 1 rod of fence, how many rods of fence will 1260 pickets build?

8. A girl sold blackberries at 8¢ a quart, and received $5.12. How many bushels did she sell?

9. If 7 pounds of tea cost $4.55, how much will 21 lb. cost?

10. At 65¢ a pound, how much tea can be bought for $9.10?

REVIEW WORK

1. I bought 21 yd. of carpet at $1.10 a yard. How many bushels of potatoes at 42¢ a bushel must I sell to pay for the carpet?

2. A bushel of wheat weighs 60 pounds. What is the weight of 2 pk. 4 qt.?

3. If I buy 4 doz. oranges at 30¢ a dozen, and sell them at 4¢ apiece, how much do I make?

4. A lady receives 95¢ a day, and her expenses are $3.50 a week. How much can she save in 4 weeks?

5. A carpenter earns $2.20 a day, and spends for his board and other expenses $7.20 a week. How many weeks will it take him to save $312?

6. How many tons of coal at $6 a ton can be bought for $792?

7. A lady bought 3 pairs of kid gloves at $1.36 a pair, $16\frac{1}{2}$ yd. of drilling at 18¢ a yard, $4\frac{1}{2}$ yd. of cambric at 16¢ a yard, and $\frac{1}{2}$ doz. linen napkins at $3 a dozen. Find the cost of all.

8. A dealer sold 192 half-pint bottles of ink. How many gallons was that?

9. From a barrel containing 36 gallons of vinegar there were drawn out $14\frac{1}{2}$ gallons at one time, $7\frac{1}{2}$ gallons at another, and $10\frac{1}{2}$ gallons at another. How many gallons remained in the barrel?

ANSWERS

Page 5, Ex. I—1 30 2 25 3 18 4 26 5 28 6 35 7 29 8 24 9 27.

Ex. II

	a	*b*	*c*	*d*
1	50	100	30	20
2	50	80	40	50
3	60	80	20	50
4	40	70	20	20
5	50	70	60	30

Ex. III

	a	*b*	*c*	*d*
1	56	77	54	13
2	74	96	75	25
3	54	78	14	37
4	85	76	26	66
5	92	95	45	38

Page 7, Ex. I

	a	*b*	*c*	*d*
1	30	41	62	43
2	50	81	32	53
3	90	51	72	93
4	100	91	82	33

	e	*f*	*g*	*h*
1	39	49	39	59
2	59	19	59	39
3	79	69	29	69
4	19	29	79	79
5	49	79	69	29

Ex. II

	a	*b*	*c*	*d*
1	64	65	86	97
2	54	65	96	38
3	44	95	37	48
4	64	36	57	88
5	35	46	87	98

	e	*f*	*g*	*h*
1	29	69	19	19
2	59	29	29	39
3	69	9	19	49
4	29	29	49	39
5	19	39	29	19

Page 8, Ex. II

	a	*b*	*c*	*d*
1	30	18	31	18
2	50	48	61	48
3	90	18	91	38
4	90	18	91	28

	e	*f*	*g*	*h*
1	32	18	33	18
2	52	38	93	48
3	82	48	83	48
4	92	18	83	38

Page 9, Ex. II

	a	*b*	*c*	*d*
1	34	18	35	18
2	54	48	55	28
3	94	68	75	28
4	84	38	95	38

	e	*f*	*g*	*h*
1	36	18	30	17
2	76	58	60	27
3	86	38	80	57
4	95	18	80	17

Page 10, Ex. II

	a	*b*	*c*	*d*
1	31	27	32	17
2	61	47	42	57
3	81	47	82	47
4	91	57	92	47

	e	*f*	*g*	*h*
1	33	17	30	16
2	53	57	50	16
3	73	17	70	26
4	93	37	80	26

Page 11, Ex. II

	a	*b*	*c*	*d*		*e*	*f*	*g*	*h*
1	31	16	32	16	**1**	30	15	54	13
2	51	36	52	36	**2**	40	35	4	13
3	81	46	82	36	**3**	100	45	14	13
4	91	16	82	36	**4**	100	55	24	13

Page 12, Ex. I

	a	*b*	*c*	*d*
1	12	44	40	88
2	24	20	36	72
3	18	33	32	66
4	36	15	49	84
5	24	22	42	44
6	48	10	72	56

Ex. II

	a	*b*	*c*	*d*
1	12	6	6	4
2	5	8	11	6
3	7	11	10	9
4	6	11	9	8
5	11	12	7	5
6	12	8	9	7

Page 13, Ex. I—**1** 60; 51; 61; 70; 81; 50; 40; 91; 80; 71 **2** 64; 55; 65; 74; 85; 54; 44; 95; 84; 75; 65; 56; 66; 75; 86; 55; 45; 96; 85; 76 **3** 8; 38; 18; 37; 47; 57; 29; 49; 59; 69 **4** 4; 34; 14; 33; 43; 53; 25; 45; 55; 65; 3; 33; 13; 32; 42; 52; 24; 44; 54; 64 **5** 7; 14; 21; 28; 35; 42; 49; 56; 63; 70; 77; 84; 91; 98 **6** 9; 18; 27; 36; 45; 54; 63; 72; 81; 90; 99

Page 14, Ex. II

	a	*b*	*c*
1	32	32	42
2	36	36	44
3	40	40	46
4	44	44	48
5	48	48	50

	d	*e*	*f*	*g*
1	42	50	8	4
2	44	54	4	4
3	46	56	9	4
4	48	58	4	12

	h	*i*	*j*	*k*
1	22	25	29	9
2	2	21	2	4
3	23	26	27	4
4	2	28	2	22

Page 16, Ex. I—**3** 15; 18; 21; 24; 27; 36; 60 **4** 25; 35; 40; 30; 45; 50; 53 **5** 12; 21; 24; 18; 45; 42; 48 **6** 12 apples; 12 apples **7** 30 sheep; 30 sheep **8** 12 hens; 12 hens

Page 17—**1** 35 **2** 1 box **3** 88¢ **4** 22¢; 44¢ **5** 11 **6** 12; 13 **7** 8 **8** 84¢ **9** $50 **10** $36

Page 19—**1** 28 qt. **2** $73 **3** 64¢ **4** 84¢ **5** $78 **6** 84 bu.; 42 bu. **7** $1.00 **8** 10 yd.

Page 21—**1** 20 **2** 5 da. **3** 68 bbl. **4** 96 yd. **5** 84 pk. **6** 96 qt. **7** 85 **8** 14¢ **9** 32¢ **10** 80¢

Page 23—**1** 11 yd.; 8 yd.; 38 yd.; 2 rd. **2** 15¢; 30¢ **3** 36; 60 **4** 54¢ **5** 2 rd. 3 ft. **6** 4 rd. **7** 36 hr. **8** 90¢ **9** 45 lb. **10** 60¢ **11** 6 hr.

Page 25—**1** 72 ft.; 24 yd. **2** 100 gal. **3** 11 lb. **4** 16 yd. **5** $1 **6** $52 **7** 13 yd. **8** ½; 2 **9** 60¢; 90¢ **10** 78¢

Page 27, Ex. I

	a	*b*	*c*
1	200	400	200
2	300	600	300
3	400	800	400
4	500	1000	500
5	600	200	100
6	700	400	200
7	800	600	300
8	900	800	400
9	1000	1000	500

Page 29, Ex. II—1 453 2 787 3 555 4 676 5 804 6 908 7 307 8 530 9 470 10 984

Page 40, Ex. I

	a	*b*	*c*		*d*	*e*	*f*
1	500	400	350	1	580	120	400
2	700	200	432	2	970	330	700
3	800	500	795	3	960	220	600
4	900	200	862	4	1270	510	800
5	1000	200	680	5	890	110	500

Page 43, Ex. I—1 $8.95 2 $48.74 3 $562.78 4 $959.98
Ex. II—1 $87.89 2 $798.87 3 $685 4 $977; $8888

Page 44—1 1392; 1479; 1152 2 1962; 1368; 1340 3 $1391 4 $1695 5 $2223 6 $2516 7 $2131 8 $1903

Page 45, Ex. I—1 159 2 248 3 215 4 193 5 171 6 187 7 249 8 176 9 209 10 275 11 187 12 220 13 242 14 248 15 209 16 209
Ex. II—1 1252 2 1523 3 1328 4 1740 5 1662 6 1413 7 2024 8 1652 9 1661 10 2082 11 1629 12 1736 13 10,883 14 7440 15 13,473 16 17,316 17 10,565 18 14,029

Page 47—1 $78.36 2 $229.83 3 $62.31 4 $221.17 5 $587.82 6 $689.48

Page 49, Ex. I—1 1885 2 19,630 3 117,716
Ex. II—1 15,860 bu. 2 4900 bu.; $4142 3 $10,920.32 4 1369 mi.

Page 50, Ex. I—1 2893 2 2533 3 3153 4 3381 5 2743 6 2669 7 2546 8 $22.49 9 $9.39 10 $13.32 11 $18.40 12 $14.55 13 $22.28 14 $22.68
Ex. II—*a* Sum $17.35 *b* Sum $28.65 *c* Sum $1.60 5 $21.76

Page 51, Ex. I—1 132 2 442 3 333 4 412 5 314 6 112 7 501 8 310 9 132 10 242 11 133 12 422 13 633 14 222
Ex. II—1 2121 2 1511 3 7121 4 1423 5 4444 6 2222 7 6543 8 3210 9 3661 10 1115
Ex. III—1 51,302 2 24,151 3 55,100 4 41,001 5 $331.44 6 $200.44 7 $444.51 8 $711.23 9 $256.63 10 $9642.01 11 $5241.62 12 $1313.11

Page 52—1 189 2 184 3 169 4 579 5 242 6 126 7 $147 8 $133 9 $183 10 $204 11 $62 12 $177

Page 53, Ex. I—1 286 2 374 3 674 4 776 5 885 6 268 7 388 8 89 9 207 10 222 11 173 12 148 13 175 14 258 15 89 16 188
Ex. II—1 79 2 269 3 158 4 448 5 166 6 176 7 165 8 235 9 94 10 299 11 193 12 191 13 181 14 172 15 391 16 1
Ex. III—1 754 2 743 3 742 4 643 5 438 6 136 7 785 8 3000 9 3785 10 1047 11 2676 12 1937 13 3889 14 2989 15 2889 16 1889 17 1889 18 6889

Page 55, Ex. I—1 379; 456; 265; 135; 567 2 513; 93; 498; 397; 181 3 $569; $486; $376; $305; $230; $124 4 5556 bu. 5 7136 lb. 6 27,285 rd.
Ex. II—1 $38.89 2 $38.79 3 $38.89 4 $29 5 $59.39 6 $173.83 7 $389.01 8 $299.27 9 $196.89 10 $259.74

Ex. III

	a	*b*		*a*	*b*
1	357	9287	4	2633	2672
2	161	901	5	2065	6758
3	2044	3878			

Page 56 — 1 178 bbl.; $496 2 136 3 $4675 4 $2220.55 5 $152.67 6 1183 7 $325 8 $2.01

Page 57 — 1 222 mi. 2 62 3 $348 4 $149.38 5 157 6 59 7 $2.75 8 $104.64 9 $110.95

Page 61, Ex. 1 — 1 693 2 488 3 609 4 612 5 909 6 1648 7 1505 8 1239 9 1269 10 848 11 2427 12 2428 13 3248 14 7208 15 2880 16 1880

Ex. II — 1 $16.40 2 $12.88 3 $4.82 4 $18.60 5 $14.18 6 $40.30 7 $24.54 8 $32.80 9 $320 10 $540 11 $700 12 $500 13 $300

Ex. III — 1 $12.80 2 $8.80 3 $500 4 $12.80 5 $10.50 6 $9.45 7 $10.80

Page 62, Ex. I — 1 3529 2 3679 3 3227 4 3945 5 3105 6 3511 7 3617

Ex. II — 1 342 2 242 3 169 4 203 5 117 6 187 7 364 8 $4.79 9 $3.94 10 $2.04 11 $1.02 12 $2.88 13 $8.39

Ex. III — 1 $5.81 2 $100.84 3 $260.39

Page 63 — 1 3240 2 1673 3 2144 4 2884 5 3234 6 1368 7 2592 8 5082

Page 64, Ex. I — 1 1056 2 2187 3 3368 4 2556 5 1245 6 1835 7 3730 8 $2790 9 $4392 10 $2376 11 $3192 12 $1734 13 $2247 14 $5082

Ex. II — 1 $33.84 2 $29.52 3 $25.68 4 $22.52 5 $30.96 6 $57.36 7 $43.12 8 $62.80 9 $74.88 10 $15.45 11 $42.48 12 $68.80 13 $51.10 14 $15.20

Ex. III — 2355; 3140; 3925; 4710; 5495; 6280; 7065; 1176; 1568; 1960; 2352; 2744; 3136; 3528

	a	*b*	*c*		*a*	*b*	*c*
1	392 bu.	632 pk.	1430 lb.	4	3388 ft.	470 rd.	1300 yr.
2	380 gal.	268 pt.	2394 oz.	5	522 yd.	423 doz.	1380 hr.
3	171 qt.	348 in.	2760 mo.				

Page 66 — 1 364 wk.; 468 wk. 2 1176 mi. 3 272 mi. 4 $326.56 5 $223.50 6 $24.25 7 8448 mi. 8 $33.25 9 $25 10 400

Page 67, Ex. I — 1 60,000 2 140,000 3 70,000 4 230,000 5 190,000 6 180,000 7 195,000 8 432,000 9 672,000 10 544,000 11 504,000 12 73,000

Ex. II

	a	*b*	*c*		*a*	*b*	*c*
1	2975	26,642	16,415	3	2340	18,504	35,060
2	2184	38,439	20,367	4	1950	64,632	13,420

Ex. III — 1 $83.95 2 $39.14 3 $30.05 4 $39 5 $7.50 6 $112.50

Page 69 — **1** 15,372 **2** 31,605 **3** 34,506 **4** 14,734 **5** 12,015 **6** 13,860 **7** 16,286 **8** 12,051 **9** 17,544 **10** 26,364 **11** 36,540 **12** 33,060 **13** 30,345 **14** 53,760

Page 70, Ex. I — **1** 15,042 **2** 35,295 **3** 10,868 **4** 41,902 **5** 40,122 **6** 52,668 **7** 27,898 **8** 24,282 **9** 25,004 **10** 25,783 **11** 38,822 **12** 42,952 **13** 37,240 **14** 40,630

Ex. II — **1** $115.60 **2** $148.46 **3** $319.68 **4** $400.33 **5** $315.36 **6** $564.62 **7** $358.50 **8** $111.60 **9** $347.41 **10** $346.56 **11** $327.60 **12** $49.77 **13** $73.08 **14** $32.48

Ex. III — **2** 14,580 **3** 12,840 **4** 34,400 **5** 36,450 **6** 56,280 **7** 56,480 **9** $175.80 **10** $191.60 **11** $319 **12** $665 **13** $424.80

Page 71, Ex. I — **1** 3561 **2** 3767 **3** 4430 **4** 3593 **5** 3873 **6** 3896 **7** 21,827

Ex. II — **1** 3859 **2** 3305 **3** 4059 **4** 881 **5** 5657 **6** 828 **7** $18.99 **8** $29.66 **9** $54.75 **10** $23.79 **11** $81.89 **12** $40.99

Ex. III — **1** $28.81 **2** $66.99 **3** $72.81 **4** $9.01 **5** $1.01 **6** $.01 **7** 27,303; 23,471; 17,723; 32,572 **8** $576.75; $722.86; $561.37; $661.34; $492.16

Page 72 — **1** $125.57 **2** $331.09 **3** $151

Page 73, Ex. I — **1** $2817.96 **2** $229.88 **3** $233.36 **4** $42.42 **5** $1231.75

Ex. II — **1** $3975.87 **2** $33,898.07 **3** $303,164.73 **4** $498,239.04

Ex. III

	a	*b*	*c*
1	445,200	1,379,000	$183,200
2	311,200	980,000	$ 91,700
3	510,300	748,000	$116,100

Page 76, Ex. I — **1** 106 **2** 108 **3** 107 **4** 107 **5** 109 **6** 106 **7** $1.10 **8** $1.08 **9** $2.03 **10** $3.04 **11** $21.05 **12** $31.10 **13** $5 **14** $5.05 **15** $8.08 **16** $7.10 **17** $2.02 **18** $6.10 **19** $7.03 **20** $9.11 **21** $8.05 **22** $6.05 **23** $8.10 **24** $10.04

Page 78, Ex. I

	a	*b*	*a*	*b*	*a*	*b*
1	174	2688	**3** 520	$43.40	**5** 3528	1869
2	93	$815.25	**4** 106	277		

Ex. II — **1** 400 **2** $287.50 **3** 68,580 ft. **4** 81 mi. **5** $21.10; $168.80 **6** 30

Page 79

	a	*b*	*c*	*d*	*a*	*b*	*c*	*d*	
1	229	226	189	157	**3** 132	326	163	146	**5** 178
2	173	264	173	158	**4** 179	129	179	157	

Page 80, Ex. I

	a	*b*	*c*	*d*	*a*	*b*	*c*	*d*
1	125	$1.20	2439	$136.38	**3** $240	$1.12	$1513	$117.12
2	146	$1.40	$1730	$144.86	**4** $168	$1.41	$1252	$125.77

Ex. II

	a	*c*	*b*	*c*
1	3513	\$7.34, \$1 Rem.	3 \$193, \$3 Rem.	\$4.35, \$6 Rem.

	a	*b*	*c*
2	6815	\$315, \$8 Rem.	\$7.36, \$4 Rem.

Page 81, Ex. I

	a	*b*	*c*	*d*
1	\$2.04	\$3.24	\$.13	\$2.41
2	\$3.01	\$2.35	\$.18	\$3.01
3	\$2.08	\$4.19	\$.09	\$3.03
4	\$3.10	\$8.08	\$.09	\$3.02

Ex. II

	a	*b*	*a*	*b*
1	96,432 ft.	64,382 bu.	3 47,823¢	64,382 qt.
2	52,864 rd.	64,382 pk.		

Ex. III

	a	*b*	*c*	*a*	*b*	*c*	*a*	*b*	*c*
1	\$72	\$42	2	2 \$75	\$95	3	3 \$204	\$95	2

Page 82 — 1 1200; 9000 2 600; 800; 1000 3 200; 600 4 1400 5 700

Page 83 — 1 1793 2 \$891 3 1760 yd.; 3520 yd. 4 62,450 5 86,420 6 76,400 7 84,900 8 59,600 9 64,124 10 72,139 11 53,814 12 93,816 13 78,463

Page 84 — 1 \$849 2 \$2434.50 3 3350 yd.; 327 yd. 4 24,711 bu. 5 4738 bu. 6 51 bbl. 7 1566 mi. 8 4819 qt.; 242 gal.; 3520 yd. 9 81 lb. 10 1840 mi.

Page 87 — 1 153 2 126 3 $112\frac{14}{15}$ 4 102

Page 88, Ex. I

	a	*b*	*c*	*a*	*b*	*c*
1	144	147	67	4 66	$163\frac{16}{32}$	$197\frac{44}{44}$
2	382	$109\frac{5}{15}$	213	5 146	$46\frac{22}{51}$	$541\frac{22}{35}$
3	186	206	113			

Ex. II

	a	*b*	*c*	*a*	*b*	*c*
1	$20,444\frac{12}{17}$	$13,963\frac{22}{44}$	$10,237\frac{24}{37}$	4 $13,695\frac{12}{26}$	$10,940\frac{81}{72}$	$10,039\frac{77}{96}$
2	$24,373\frac{4}{19}$	$13,283\frac{55}{87}$	$8,583\frac{7}{39}$	5 $12,135\frac{12}{39}$	$7,622\frac{84}{84}$	$10,187\frac{24}{38}$
3	$25,619\frac{17}{21}$	$10,424\frac{52}{73}$	$6,710\frac{64}{94}$	6 $1,461\frac{9}{57}$	$8,415\frac{24}{56}$	$10,489\frac{82}{35}$

Page 89 — 1 \$89 2 29 da. 3 236 lb. 4 \$93; \$2139 5 74 bu. 6 24 mo. 7 187 8 198 da.; 342 da. 9 36 10 54 bu. 11 \$3½ 12 \$132; 132

Page 91, Ex. I

	a	*b*	*a*	*b*
1	13	23	4 16	29
2	18	13	5 18	36
3	13	13		

Ex. II — 1 24 doz.; 32 doz. 2 25 bu.; 34 bu. 3 26 gal.; 39 gal. 4 64 pk. 5 24 doz. 6 34 7 26

Page 92, Ex. I

	a	*b*
1	62,450	64,124
2	86,420	72,139
3	76,400	53,814
4	84,900	93,816
5	59,600	78,463

Ex. II

	a	*b*
1	735,800	5283
2	843,600	5246
3	638,100	6475
4	815,400	$64.75
5	947,200	$81.67

Ex. III — 1 2400 qt. 2 2300 gal. 3 1500 yd. 4 2500 lb.

Page 93, Ex. I

	a	*b*
1	$13.46	$12.64
2	$14.72	$9.72
3	$15.63	$7.39
4	$16.36	$8.26
5	$13.81	$8.74

Ex. II — 1 20,400 bu. 2 800 lb. 3 10,600 bu. 4 1200 pr. 5 50,200 bu. 6 205 bu. 7 345

Page 95 — 1 85¢ 2 175 lb. 3 125 4 $2.50 5 $41.65 6 $5.25 7 $1.25; $20 8 12 9 $50 10 $7.28 11 237 bu.

Page 96, Ex. I — 1 $99 2 $13.68 3 $7.80 4 $71.04 5 $111.36 6 $14.40

Ex. II — 1 90¢ 2 $2.60 3 87¢ 4 16¢ 5 80¢ 6 $1.20 7 28¢ 8 54 lb. 9 16 pr. 10 36 11 8 pr.

Page 99 — 1 300 sec.; 1200 sec.; 3600 sec. 2 600 min.; 900 min. 3 744 hr.; 720 hr.; 672 hr. 4 92 da. 5 3 da. 6 10 yr.; 120 mo. 7 6 C. 8 5 C. 30 yr. 9 60 min.; 16 hr. 10 61 hr. 18 min. 11 750 min. 12 50 hr.

Page 101 — 1 2 T. 2 2½ T. 3 $20 4 $18 5 3 T. 6 $14 7 4000 8 36 cwt. 9 $3.10 10 $26 11 22 lb.

Page 103 — 2 126 gal.; 126 gal. 3 126 qt.; 252 qt. 4 140 gal.; 560 qt. 5 80¢ 6 17½ gal.; 14 gal. 7 24 gal.; 116 gal. 8 $8.40 9 126 10 $22.40

Page 105 — 1 11 bu. 3 pk. 6 qt. 1 pt. 2 12 bu. 2 pk. 6 qt. 1 pt. 3 12 bu. 3 pk. 7 qt. 1 pt. 4 2 bu. 1 pk. 5 106 bu. 2 pk.; 142 bu. 2 pk. 6 159 pk.; 147 pk. 7 $15 8 $16.65 9 $17.04 10 48 11 $5 12 $4.60 13 $4.35

Page 107 — 1 1280 rd.; 1760 rd.; 2480 rd. 2 115 yd.; 241 yd.; 275 yd. 3 $1.34 4 25 mi. 50 rd. 5 yd. 2 ft. 11 in. 5 37 mi. 74 rd. 3 yd. 2 ft. 8 in. 6 35 mi. 42 rd. 2 yd. 1 ft. 4 in. 7 15 bu. 1 pk. 7 qt. 8 7 mo. 24 da. 22 hr. 43 min. 55 sec. 9 114 ft.; 38 yd. 10 108 in.; 504 in. 11 22 yd.

Page 111 — 1 92 sq. ft. 2 $1.75 3 4536 sq. in. 5 30 sq. yd. 10 32 sq. yd.

Page 112 — 1 108 sq. ft.; 87 sq. ft. 2 $11.55 3 9 4 25 sq. ft.; 25 sq. yd. 5 20 T. 6 3920 lb.; 98 lb.; 49 lb. 7 50 lb. 8 $12.43 9 4400 times 10 20 qt. 11 15

Page 113 — 1 160 sq. rd. 2 1 A.; 1 A. 3 $74 4 50 bu. 5 $43.46 6 $36 7 16½ yd. 8 1 hr. 9 90¢ 10 7 da. 11 10 hr.

Page 114—1 77 yr. 2 mo. 2 3 mi. 3 56 4 90 in.; 117 in.; 171 in. 5 $9 6 88¢ 7 $34 8 54¢ 9 $1.65 10 $5.80 11 99¢.

Page 115—1 $189 2 54½ bu. 3 $12.75 4 28¢ 5 24 bbl. 6 11 bu. 1 pk. 7 $1.26 8 6 doz. 9 $62.40 10 $450 11 129,600 times

Page 116—1 $8.40 2 14 yd. 3 396 ft. 4 41 5 243 bu. 6 100 sq. rd. 7 $4.50 8 ⅛; ⅜; ⅞ 9 $2.94 10 800 bu. 11 508,027

Page 117—1 8¢ 2 $5.88 3 130 4 $225 5 28; 35 6 64 bu. 7 48 8 56 9 $2395 10 20,417

Page 118—1 200 yd. 2 $1.90 3 $30.40; $60.80 4 $1.10 5 5 lb.; 8 da. 6 14¢; 42¢ 7 12 8 $13.50 9 $14.40 10 $290 11 $537.26

Page 119—1 9 da. 2 24 bbl. 3 50 A. 4 $310 5 $1280.70 6 $8.30 7 $5114.47 8 13 gal. 1 qt. 9 54,036,576 10 $199.36 11 97 bu.

Page 120—1 1760 yd.; 176 yd. 2 $3.75; $7.50 3 160 4 $1.00 5 $10.77 6 $1.51 7 37 hr. 8 $60.75 9 3247½; 1623¾; 1409⅛; 1037⅞ 10 $2278

Page 121—1 70 2 36 da. 3 120 lb. 4 22¢ 5 252 pt. 6 10 wk. 7 $12 8 $100 9 72¢ 10 96 sq. in. 11 3125 sq. ft.

Page 122—1 166 yr. 2 384 sq. in. 3 $12 4 $81.20 5 41 6 57¢ 7 132 qt. 8 50¢ 9 20 yd. 10 $15.30

Page 123—1 $.14; $3.50 2 $15 3 $69.12 4 144; 1728 5 24 6 27¢ 7 $1.44 8 48 9 7¢ 10 $1367.74

Page 124—1 7½ mo. 2 196 bu. 3 48 bbl. 4 33¢ 5 32¢ 6 $1.17 7 $3 8 8 9 $3.84 10 $137.46

Page 125—1 $104.40 2 $105 3 $56.25 4 $227.50 5 $17.50 6 $2.88 7 $1.19 8 $4.35 9 $3.51 10 200 lb. 11 6 doz. 12 576 13 144 lb.

Page 126—1 $23.35 2 $23.62½ 3 56¢ 4 42 bu. 5 200 ft. 6 $54.75 7 $179.20 8 85¢ 9 $37½

Page 127—1 84 lb. 2 50 bbl. 3 48 da. 4 $1000 5 $10,095 6 $2.90 7 45 rd. 8 2 bu. 9 $13.65 10 14 lb.

Page 128—1 55 bu. 2 37½ lb. 3 72¢ 4 $8.80 5 52 wk. 6 132 T. 7 $9.27 8 12 gal. 9 3½ gal.

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